NISSAN MOTOR COMPANY

☐10 : Sep 11th 2015

Nissan Motor Co.,Ltd.

Materials Engineering Department
Materials Technology Planning Group

Attn: Customer

Request from Nissan Concerning Material Data Input in IMDS

Contents

1. Scope

Input IMDS regarding <u>all of the production part numbers.</u>

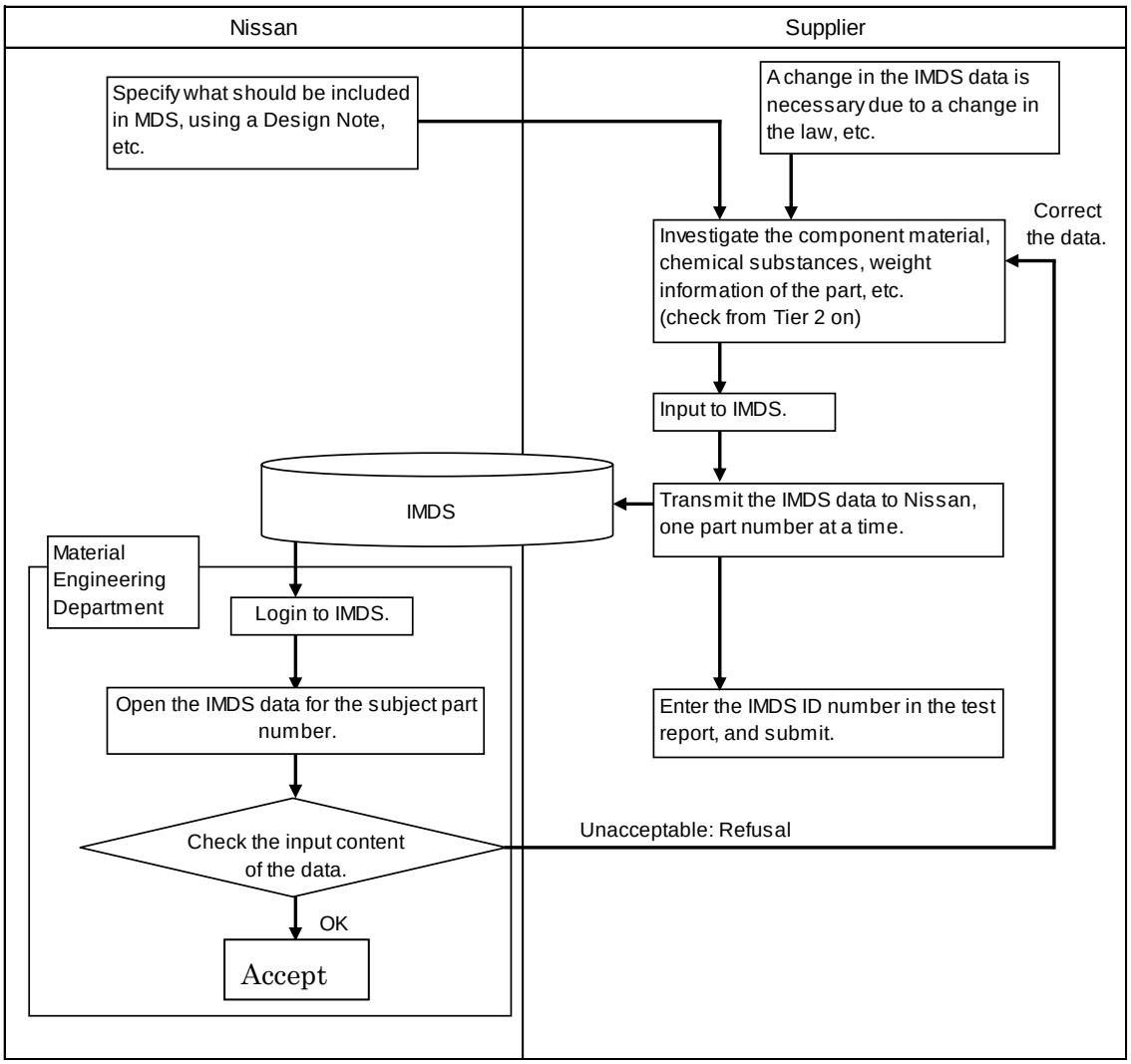
When a change to a part occurs for IMDS data already submitted to Nissan (noted below), the IMDS shall be revised as required, and resubmitted.

- Restrictions concerning the use of NESM0301 specific substances, as well as changes concerning regulations. (Example: SVHC substance increase of REACh)
- Changes in part mass
- Changes in material (Include change by sub-supplier)
- Changes in part number

2. Deadline for submission

Within 3 months of the design release or before any part is delivered to Nissan, whichever is the earliest. (Or when there has been another instruction from Nissan, to be by that deadline).

3. Work flow



4.List of Nissan IMDS Company IDs

For IMDS, submissions select the destination Company ID from the list below.

The supplier shall select the destination Company ID in accordance with the Nissan design release base.

Destination (name) of IMDS to be sent out	IMDS ID	Nissan design base
Nissan Technical Center(Japan)	13822	NML, Nissan Shatai, Aichi Machine Industry Co., Ltd., NBA, YNTC, NTCSEA, NSA, RNTBCI
Nissan Technical Centre Europe*	13821	NTCE, NTCES After Sales Parts(Europe)
Nissan Technical Center North America	53918	NTCNA, NMEX
23 NTC XD1 **	102598	—
NISSAN MOTOR LIGHT TRUCK CO.,LTD.	55883	NMLT
Nissan After-Sales(Japan) ***	115169	After Sales Parts(Japan)

* Nissan After sales (Europe) parts shall be transmitted to ID: 13821

**Only select when there has been a specific request from Nissan.

***Nissan After-Sales (Japan) parts shall be transmitted to ID: 115169.

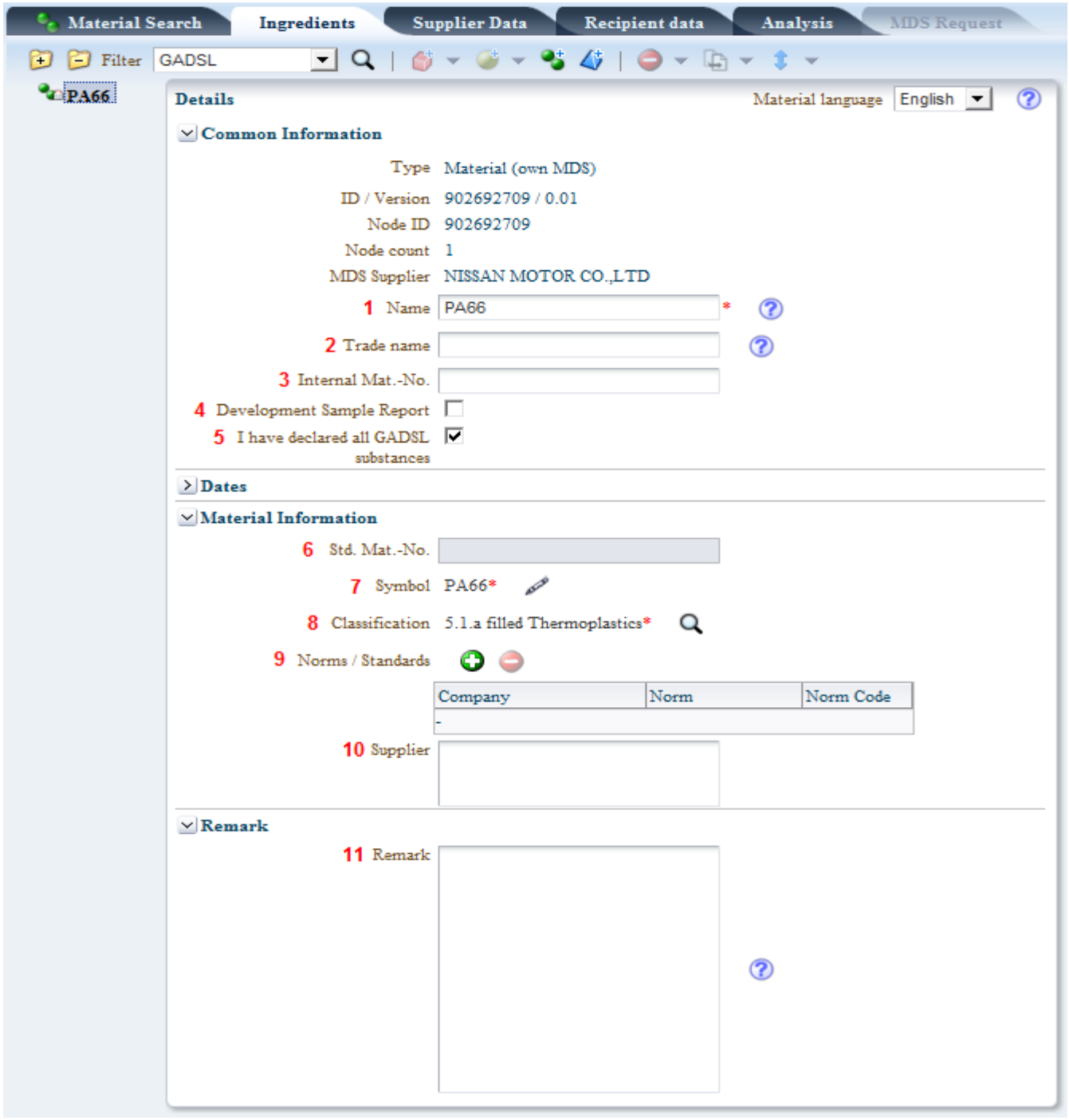
5. Input method with regard to each input item.

- The respective inputs to IMDS shall be performed as follows.
- Items that are Mandatory must be provided without exception.
- Only Western alphanumeric characters shall be input in IMDS.

The input of Chinese characters (kanji), hiragana, and one-byte katakana is not allowed.

- The input language shall be English only, the input of other languages is not allowed.

5-1. Input items when making material data



No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
1	Name	Mandatory	This is not the generic material name. Input the symbol or code, etc. assigned in standards which define the material. (Please refer to IMDS Recommendation 001). Please note that data input must be in English.	STM-C 540, Al-Si12, PA66, ACM, TPA-ES, etc.
2	Trade name	Optional	Input the trade name of the material.	-
3	Internal Mat. No.	Optional	Input the material grade, or code, etc. established by your company.	SP780, SV35C, etc.
4	Development Sample Report	Do not input	-	-
5	I have declared all GADSL substances	Check required	-	-
6	Standard Mat. No.	Optional	For metals, input the metal number defined by standard EN10027; otherwise, input the symbol, grade, or code, etc. assigned in other public norms/ standards.	1.0347. etc.
7	Symbol	Plastic/ elastomer : Mandatory Case of materials classification : 5.1.a/b ~ 5.3 Other Plastic/ elastomer : Optional	For polymer materials such as plastics and elastomers, etc., input the symbol based on ISO 1043, ISO 1629, ISO 18064, and Nissan Engineering Standard NES D0031.	PP, ABS, ACM, TPA-EE, etc.
8	Classification	Mandatory	Referring to Table 1 or Annex I of IMDS 001 select the relevant material classification.	“1.1.2 highly alloyed”, etc.

No.	Data Item	Input Requirements	How to Input Data	Input Examples
9	Norms/Standards	Optional	Select the norm/standard (JIS, ASTM, ISO, etc.) which determines the name and standard material number and input the norm/standard number.	JIS G 3135, etc.
	Inhouse Norms	Optional	Input the Nissan Engineering standard number (NES No.) which determines the name and internal material number.	NES M8015, etc.
10	Supplier	Optional	Input the name of the material supplier who supplies the relevant material (do not input name of a trade company).	-
11	Remark	Optional	Please state any other matter which should be reported to Nissan. However, it must be in English.	-

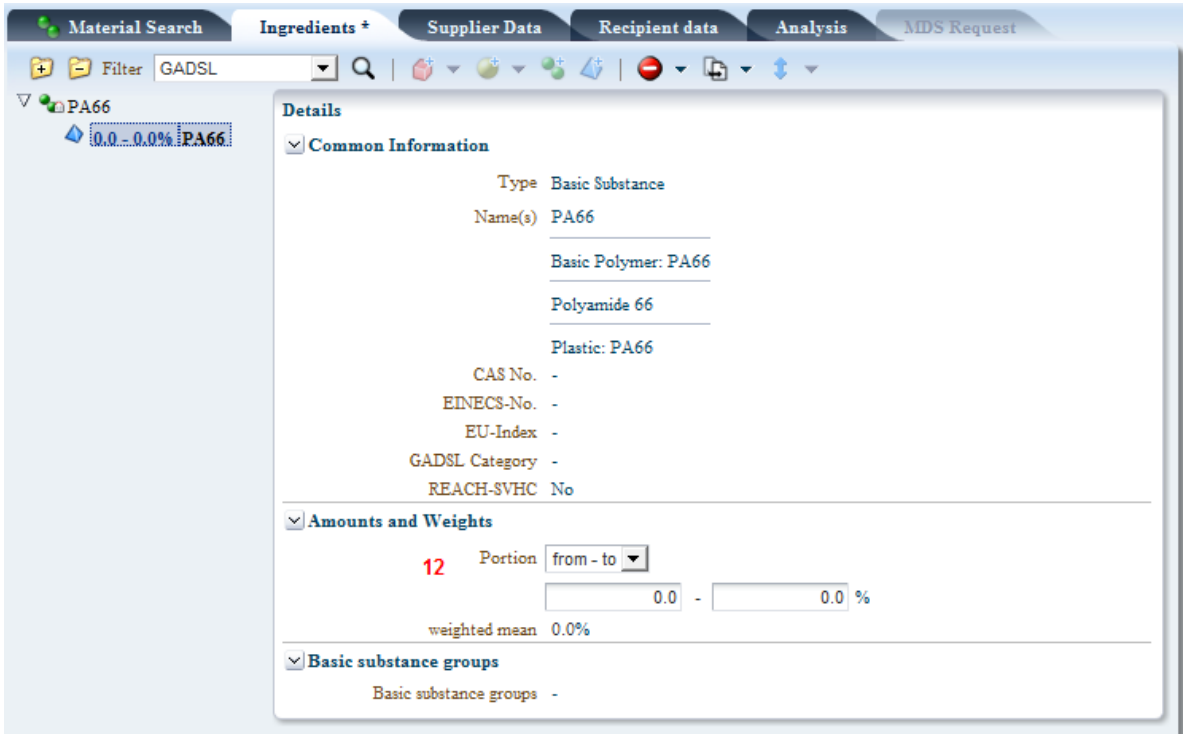
Table 1 **IMDS material classification English table (Ver. 1.20)**

Classification number	Material classification in IMDS	Material (example)
0	undefined	
1	Steel and iron materials	
1.1	Steels / cast steel / sintered steel	Use only when classifications 1.1.1 or 1.1.2 are unsuitable.
1.1.1	unalloyed, low alloyed	SP220 S45C
1.1.2	highly alloyed	MCB240H
1.2	Cast iron	Use only when classifications 1.2.1, 1.2.2 or 1.2.3 are unsuitable
1.2.1	Cast iron with lamellar graphite / tempered cast iron	FCA FCMP440
1.2.2	Cast iron with nodular graphite / vermicular cast iron	FCD450
1.2.3	Highly alloyed cast iron	EN-GJSA-XNiCr20-2
2	Light alloys, cast and wrought alloys	
2.1	Aluminium and aluminium alloys	A6063 A5052 Judgment can be made based on material elements and the results can be classified as 2.1.1 and 2.2.2.
2.1.1	Cast aluminium alloys	AC4CH ADC12
2.1.2	Wrought aluminium alloys	A6061-T6
2.2	Magnesium and magnesium alloys	Use only when classifications 2.2.1 or 2.2.2 are unsuitable.
2.2.1	Cast magnesium alloys	AM60B
2.2.2	Wrought magnesium alloys	Class2 (Another name: MGA2)

Classification number	Material classification in IMDS	Material (example)
2.3	Titanium and titanium alloys	Unalloyed titanium (Grade 3) TTH480
3	Heavy metals, cast and wrought alloys	
3.1	Copper (e.g. copper amounts in cable harnesses)	C1100P
3.2	Copper alloys	CN6A83
3.3	Zinc alloys	ZDC2
3.4	Nickel alloys	Nickel alloy (AClCZ-100) NW2200
3.5	Lead	Battery lead PEPb-1
4	Special metals	
4.1	Platinum / rhodium	Refined platinum (99, 95) Pt
4.2	Other special Metals	Semiconductors (semicon) such as gold (Au), silver (Ag), tungsten(VWW1C), silicon metalloid(Msi1), solder, tin(Sn), Si/GaAs, wafer
5	Polymer materials	
5.1	Thermoplastics	
5.1.a	filled Thermoplastics	ABS, AES, ASA, EVOH, LCP, PA6, PA66, PBT, PC, PE, PEEK, PET, PMMA, POM, PP, PPS, PTFE, PVC Example of filling materials C and CF: Carbon G and GF: Glass M and MD: Metallic mineral T and TD: Talc
5.1.b	unfilled Thermoplastics	ABS, AES, ASA, EVOH, LCP, PA6, PA66, PBT, PC, PE, PEEK, PET, PMMA, POM, PP, PPS, PTFE, PVC
5.2	Thermoplastic elastomers	TPO, TPU
5.3	Elastomers / elastomeric compounds	NBR, SBR, EPDM, EPM, ACM, ECO
5.4	Duromers	Use only when classifications 5.4.1, 5.4.2 or 5.4.3 are unsuitable
5.4.1	Polyurethane	PUR
5.4.2	Unsaturated polyester	UP resin

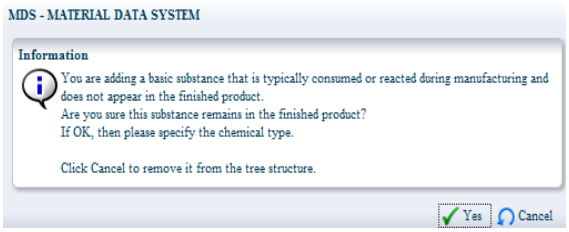
Classification number	Material classification in IMDS	Material (example)
5.4.3	Other duromers	Epoxy resin, melamine resin, phenol resin
5.5	Polymeric compounds (e.g. inseparable laminated trim parts)	
5.5.1	Plastics (in polymeric compounds)	—
5.5.2	Textiles (in polymeric compounds)	Aramid fiber, polyester fiber, polyacrylic fiber
6	Process polymers	
6.1	Lacquers	Lacquer coating, coloring agent, final coating, powder coating
6.2	Adhesives, sealants	Adhesive, hot melt adhesive, adhesion promoter, glue, die adhesive
6.3	Underseal	Sealer
7	Other materials and material compounds (scope of mixture)	
7.1	Modified organic natural materials (e.g. leather, wood, cardboard, c...	Leather, wood, specific board material, chip board, fiberboard, paper, cardboard, cotton
7.2	Ceramics / glass	PCB ceramic, glass fiber, metallic oxide, ferrite
7.3	Other compounds (e.g. friction linings)	Friction lining, mineral
8	Electronics / electrics	
8.1	Electronics (e.g. pc boards, displays)	Display material, and materials of electronic components that cannot be assigned to the classifications noted above. Solder is classified based on its composition.
8.2	Electrics	—
9.	Fuels and auxiliary means	
9.1	Fuels	—
9.2	Lubricants	Oil, grease, fats and oils, wax, MoS, synthetic agent
9.3	Brake fluid	DOT3 brake fluid
9.4	Coolant / other glycols	Ethylene glycol
9.5	Refrigerant	R134A, carbon dioxide
9.6	Washing water, battery acids	—
9.7	Preservative	Rust preventing oil
9.8	Other fuels and auxiliary means	Filling gas, flammable composite material

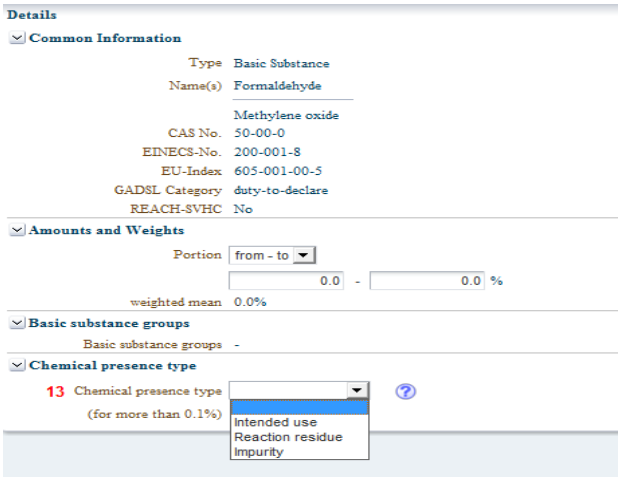
5-2 Input items when making chemical substance data



No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
12	Portion	Mandatory	Input the design content ratio. Select one of the options from “range,fix value,rest (%)” If range or fix value is selected, the ratio must be inputted	-

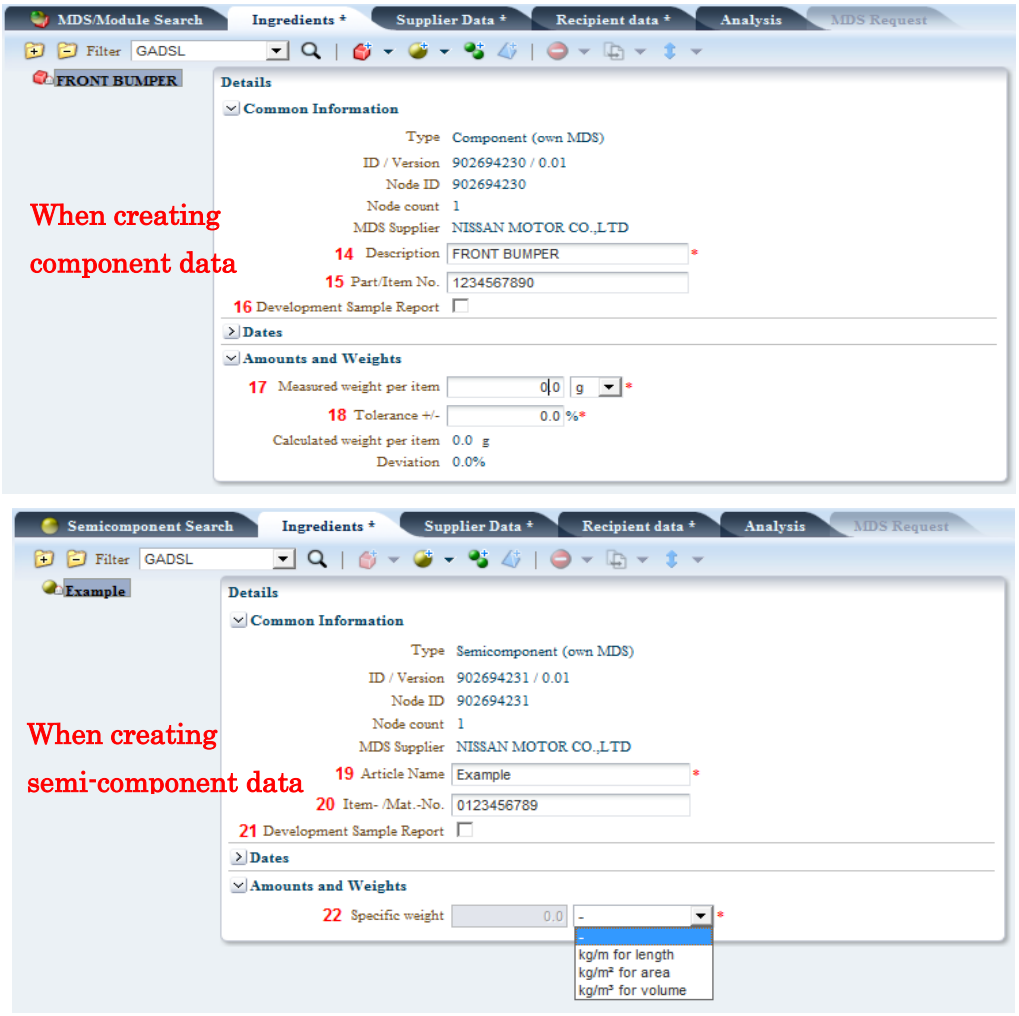
5-3 Input of Chemical presence type





No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
13	Chemical Presence Type.	Mandatory (When input was required by IMDS system)	If this substance remains in the finished product, select the chemical type.	-

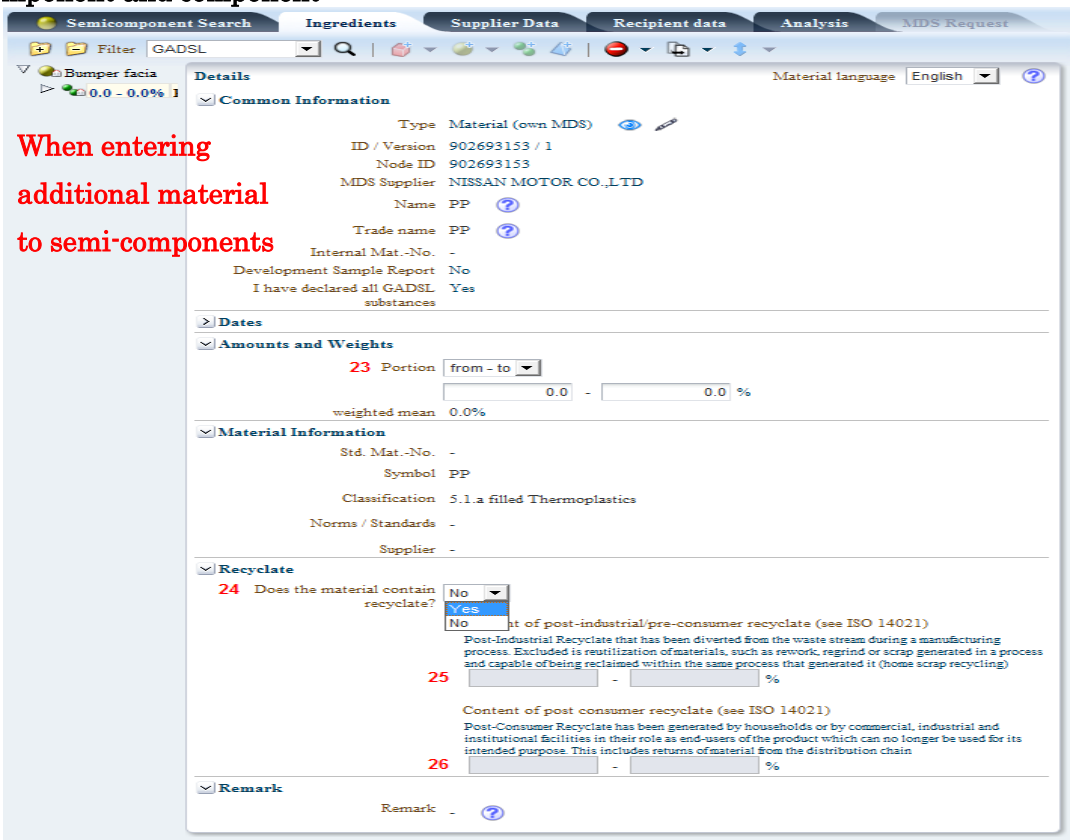
5-4 Input items when making component/semi-component data



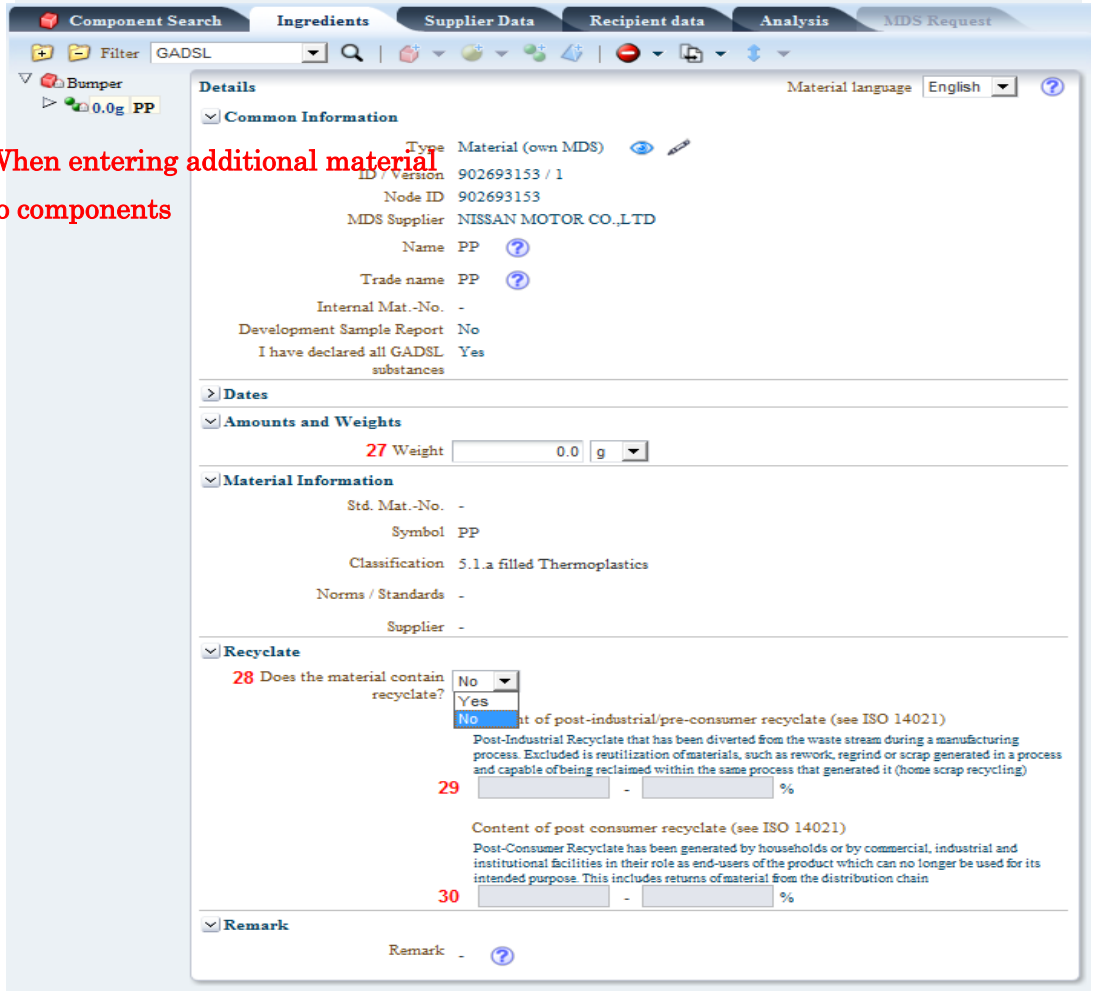
No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
14,19	Description /Article Name	Mandatory	Input the Part Name indicated in the drawing or parts name as specified in the Parts List provided by Nissan IMDS team.	FRONT BUMPER etc
15,20	Part/Item No. /Item-/Mat-No	Mandatory	Input the Part No. indicated in the Nissan drawing. (Regarding a sub component, input the part number specified in the drawing.) .When not shown in the drawing, input the internal Part/Item No. assigned by the Supplier.	1234567890 etc
16,21	Development Sample Report	Do not input	-	-
17	Measured weight per item	Mandatory	Input actual measured weight and select appropriate weight unit. If measured weight is not available, design weight specified in the drawing may be used.	6500[g] etc
18	Tolerance	Mandatory	Within +/-5%	-
22	Specific weight	Mandatory	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.	-

5-5 Input items when making materials concerning when material data was added to a semi-component and component

When entering additional material to semi-components



When entering additional material to components



No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
23	Portion	Mandatory	Input the design content ratio. Select one of the options from “range,fix value,rest (%)” If range or fix value is selected, the ratio must be inputted	-
24, 28	Does the Material contain recyclate ?	Mandatory	If the material contains, (1) in-house recycle material or (2) post consumer recycle material, You need to select “yes”.	-
25, 29	Content of post-industrial/pre-consumer recyclate	Mandatory	-	-
26, 30	Content of post consumer recyclate	Mandatory	-	-

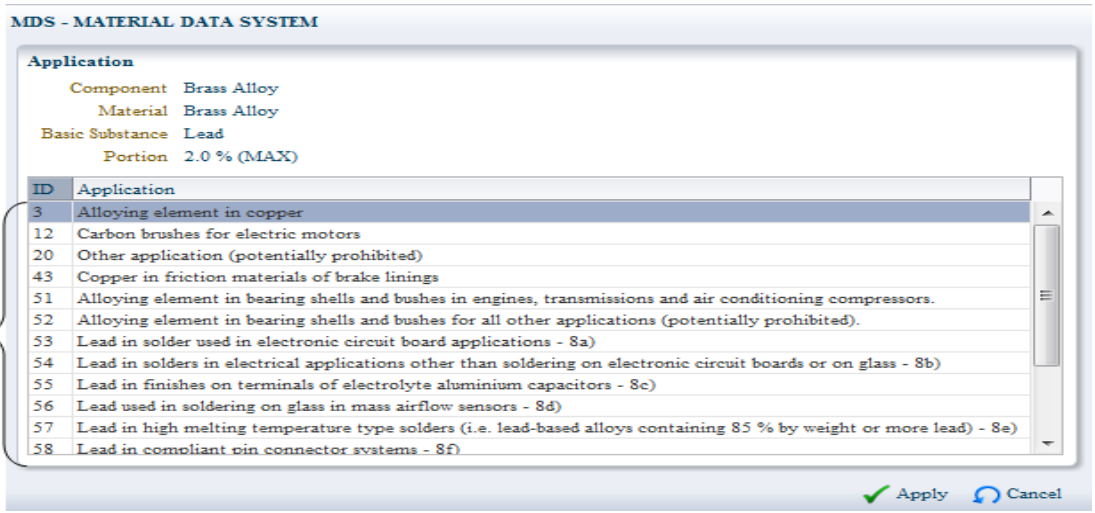
Definition of recycle material should be referred to ISO 14021.

Post-industrial/Pre-consumer recycle material should be referred the following table.

Post-industrial/Pre-consumer recycle material (Definition in ISO 14021)	Example as excluded from Post-industrial/Pre-consumer recycle material
Post-industrial/Pre-consumer recycled material; Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.	Plastic:Gate, Sprue, Runner Metal :Self outbreak scrap

27	Weight	Mandatory	Input actual measured weight and select appropriate weight unit. If measured weight is not available, design weight specified in the drawing may be used.	

Input of application code



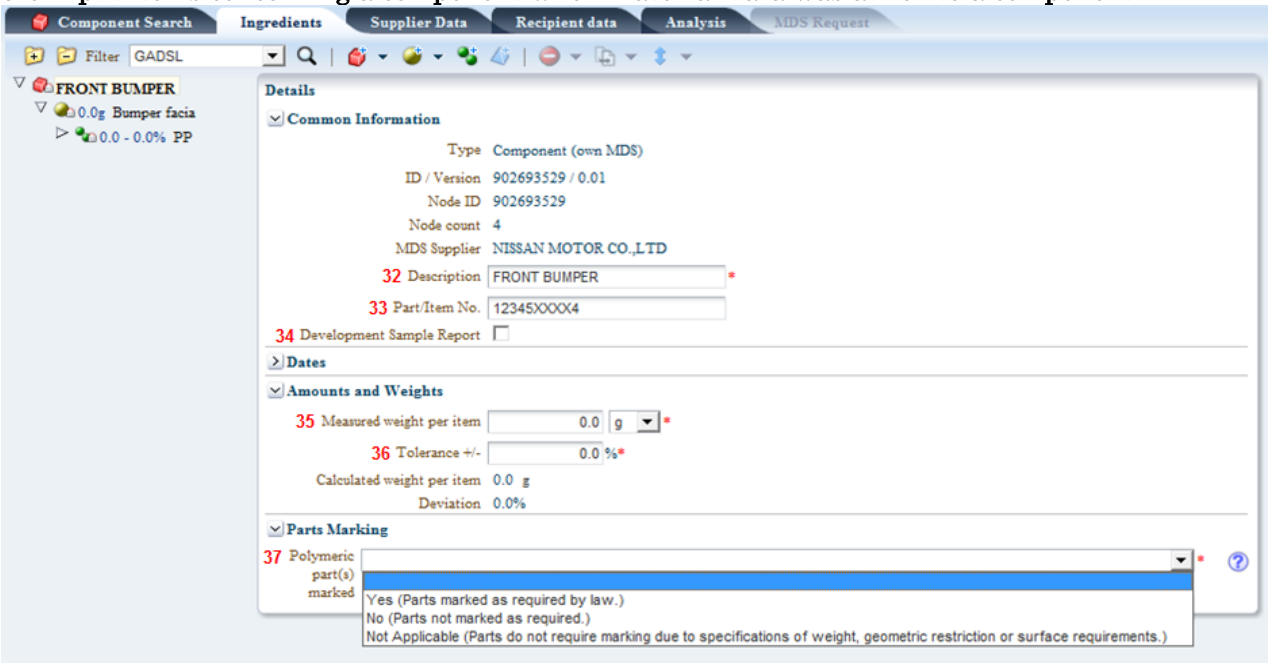
No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
31	Application	Mandatory	Applicable application should be selected from table.2 in case of containing 4 heavy metals (lead, hexavalent chromium, mercury, cadmium). But No.20 Other application (potentially prohibited) is prohibited to input in Nissan. Refer to each country exemption rule of NESM0301.	-

Table 2　IMDS application code (Lead, Hexavalent chromium, Mercury, Cadmium)

ID	APPLICATION
Lead used as/in	
1	Alloying element in steel for machining purposes or galvanised steel
2	Alloying element in aluminium for machining purposes
3	Alloying element in copper
51	Alloying element in bearing shells and bushes in engines、transmissions and air conditioning compressors.
52	Alloying element in bearing shells and bushes for all other applications (potentially prohibited).
Lead and its compounds used as/in	
7	Battery
8	Vibration dampers
10	Vulcanising agent and stabiliser for elastomers in fluid handling and powertrain applications
13	~~Solder in electronic circuit boards and other electric applications~~ **Not used by NISSAN**
53	Lead in solder used in electronic circuit board applications - 8a)
54	Lead in solders in electrical applications other than soldering on electronic circuit boards or on glass - 8b)
55	Lead in finishes on terminals of electrolyte aluminium capacitors - 8c)
56	Lead used in soldering on glass in mass airflow sensors - 8d)
57	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead) - 8e)
58	Lead in compliant pin connector systems - 8f)
59	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages - 8g)
60	Lead in solder to attach heat spreaders to the heat sink in power semiconductor assemblies - 8h)
61	Lead in solders in electrical glazing applications on glass except for soldering in laminated glazing - 8i)
62	Lead in solders for soldering in laminated glazing - 8j)
15	Valve seats
16	Electrical components which contain lead in a glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs
63	10(a) - Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound. This exemption does not cover the use of lead in: — glass in bulbs and glaze of spark plugs, — dielectric ceramic materials of components listed under 10(b), 10(c) and 10(d).
64	10(b) - Lead in PZT based dielectric ceramic materials of capacitors being part of integrated circuits or discrete semiconductors
65	10(c) - Lead in dielectric ceramic materials of capacitors with a rated voltage of less than 125 V AC or 250 V DC
66	10(d) - Lead in the dielectric ceramic materials of capacitors compensating the temperature-related deviations of sensors in ultrasonic sonar systems
18	Pyrotechnic initiators
44	Concentration within acceptable GADSL limits*1
20	~~Other application (potentially prohibited)~~ **Not used by NISSAN**
Hexavalent chromium and its compounds used as/in	
21	Corrosion preventive coatings
49	Corrosion preventive coatings related to bolt and nut assemblies for chassis applications
22	Absorption refrigerators in motorcaravans
45	Concentration within acceptable GADSL limits
20	~~Other application (potentially prohibited)~~ **Not used by NISSAN**
Mercury used as/in	
25	Discharge lamps and instrument panel displays
46	Concentration within acceptable GADSL limits
20	~~Other application (potentially prohibited)~~ **Not used by NISSAN**
Cadmium used as/in	
47	Concentration within acceptable GADSL limits
20	~~Other application (potentially prohibited)~~ **Not used by NISSAN**

*1 Thresholds 0.1% for mercury, lead and hexavalent chromium, 0.01% for cadmiumFor the details of the IMDS application codes, refer to the IMDS official Home Page → FAQ (collection of frequently asked questions) → Materials → "Is there a Japanese translation of the application codes?" (PDF).

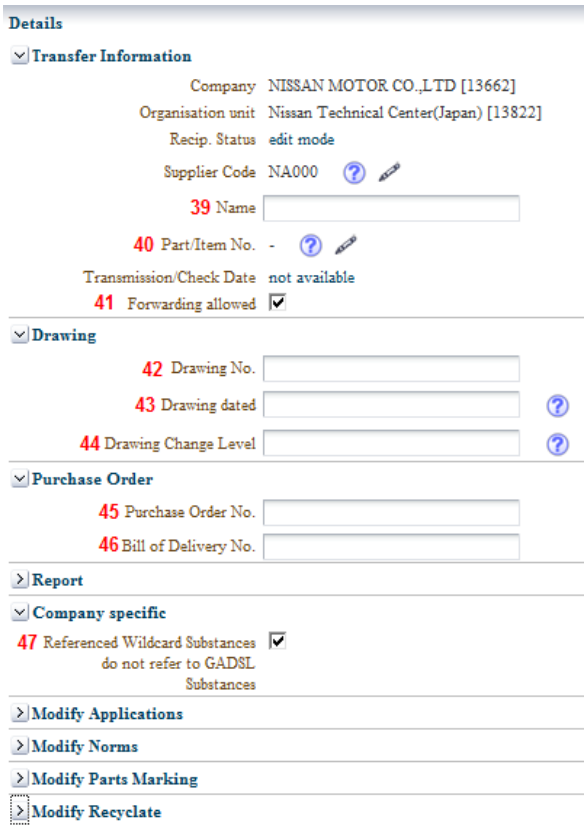
5-6 Input items concerning a component when material data was added to a component



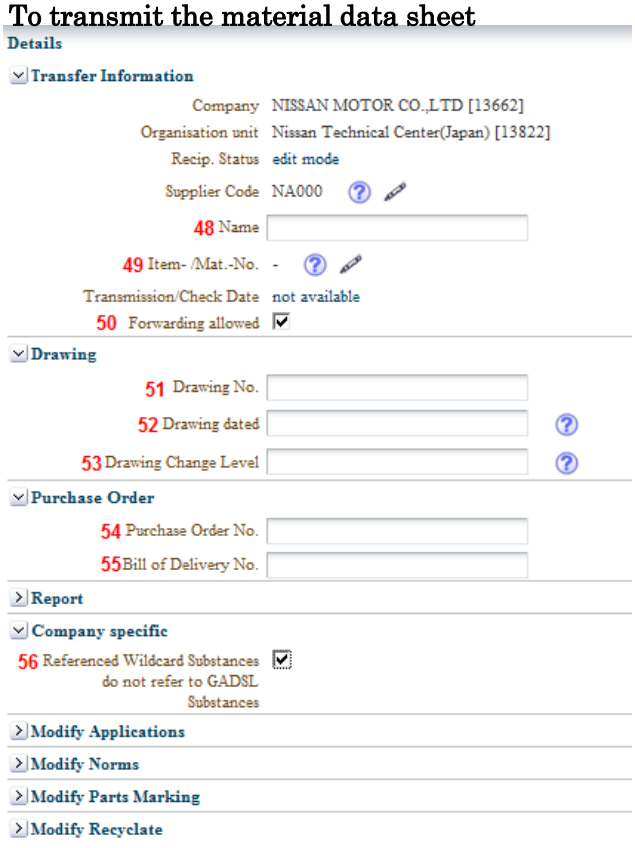
No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
32	Description	Mandatory	Input the Part Name indicated in the drawing or parts name as specified in the Parts List provided by Nissan IMDS team.	FRONT BUMPER etc
33	Part/Item No.	Mandatory	Input the Part No. indicated in the Nissan drawing. (Regarding a sub component, input the part number specified in the drawing.) When not shown in the drawing, input the internal Part/Item No. assigned by the Supplier.	1234567890 etc
34	Development Sample Report	Do not input	-	-
35	Measured weight per item	Mandatory	Input actual measured weight and select appropriate weight unit. If measured weight is not available, design weight specified in the drawing may be used.	6500[g] etc
36	Tolerance	Mandatory	Within +/-5%	-
37	Polymeric part(s) marked	Mandatory	Polymeric part marking should be answered for all plastic parts with more than 100g & Elastomers more than 200g Select an answer for the Polymeric part marking from “Yes”,”No” or “Not applicable”. Please confirm NESD0031 4.4 Markings if you choose “Not applicable” Marking of polymeric parts obey NES D0031	“Yes”, ”No” or “Not applicable”.

5-7 Input items concerning company data

To transmit the parts data sheet



To transmit the material data sheet



No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
39, 48	Name	Mandatory	Input the parts name specified in the Parts List provided by Nissan. Input the symbol, or code, etc. to define Material.	FRONT BUMPER PP etc
40	Part/Item No	Mandatory	Input the 10 digit part number as shown in the Nissan drawings using western alphanumeric characters only. Do not include any hyphens or spaces, etc. between the first 5 and last 5 digits.	1234567890 etc
41, 50	Forwarding allowed	Check required	-	-
42, 51	Drawing No.	Optional	Input the Drawing No. The Drawing No. has 10 digits. Do not put a hyphen or space between the first 5 and second 5 digits	1234567890 etc
43, 52	Drawing dated	Optional	Input the date of the most recent design notification issue date for the particular part, or the Drawing Issue Date.	20080301 etc (if it is March 1, 2008)

No.	Data Item	Input Requirements (Mandatory/Optional)	How to Input Data	Input Examples
44, 53	Drawing Change Level	Data sheet of parts : Mandatory Data sheet of Material : Optional	Input the most recent Drawing Notification No.	O1-X001, O1X00etc
45, 54	Purchase Order No.	Optional	Input production parts number and material code (item codes provided from purchase dept. of Nissan.)	-
46, 55	Bill of Delivery No.	Not necessary	-	-
47, 56	Referenced Wildcard Substances do not refer to GADSL Substances	Check required	-	-
49	Internal Mat.-No.:	Mandatory	Input the material grade, or code, etc. specified in NES or MT code etc	JNB117 etc

6. Before using IMDS

Online registration by each supplier is necessary in order to use IMDS.

Online registration to IMDS (each supplier)

IMDS Home Page: http://www.mdsystem.com/

Perform the online registration (registration of Contact Person and Company Administrator) after referring to

⇒ IMDS official Home Page ⇒ IMDS System ⇒New to IMDS? ⇒ Company Registration ⇒ Online Registration

7. General Info

- For a manual concerning input, refer to "IMDS official Home Page ⇒Help⇒FAQ–

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

<Address for Inquiries concerning IMDS input>

IMDS Service Center

Refer to IMDS Official Home Page ⇒Help⇒ Contact⇒ IMDS Service Centers

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

- For items where no rules are specified in this document, input in accordance with IMDS recommendation.

8. Data sheet work flow

Login

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Registration of material

- Material data making ……P.4
- Selection of IMDS material classification ……P.7
- Making of chemical substance data ……P.10

↓

Component/semi-component making

- Making of the component/semi-component data P.12
- Add material data to a semi-component and component‥P13
- Input of recycled information ……P.13
- Input of application code ……P.15
- Material indication for parts made of resin/rubber P.17

↓

Input of supplier information

↓

Input of company data

- Input of company data …… P.18

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Data sheet submission

9. Checking of submitted data

After receiving the IMDS data, Nissan reviews the content, and accepts or rejects.

The supplier confirms the status in IMDS.

When rejected, check the reason for rejection, correct the data, and submit again.

10. Actual examples of other frequently asked questions

Table 3 Actual examples of frequently asked questions

Category	Question	Answer
Registration with IMDS	Our company is already registered on IMDS in relation to another company. Does our company have to register again in relation to business with Nissan?	There is no need to register again.
	Our company would like to register with IMDS, but how do we go about it?	Registration can be completed online at the IMDS website.
	How much fees are charged for using IMDS?	There are no charges for suppliers. The OEM side (Nissan) pays Hewlett-Packard charges based on the total number of MDSs.
Contact Person, Company Administrator	We are not sure about what kind of person is appropriate as a Contact Person or Company Administrator	The Contact Person is a person who is familiar with materials. A Company Administrator is a person who manages the User IDs in your company and who is the contact person with Hewlett-Packard.
Password	Although I inputted the password, a lock was applied and I was unable to log in. What do I do?	Releases it by Request new password menu. This is under the login menu.
Language	Can I input data in Japanese?	No, it is not possible. This is a system that was developed in Europe and all data must be added using Western English characters.
Data Transmission	I have registered with IMDS but when I actually go to use the system, it takes a long time to switch from one page to the next. Is there anything I can do?	It depends on the internal internet connection environment but it could also be because the IMDS server is located in Europe.
	If we send our company's data to Nissan, is there a possibility that it will be seen by other suppliers?	No. Basically, only companies whose address you specify will be able to view your company's information. However, if when you transmit your information you press the "Publish" button, your company's information can be viewed by all IMDS users.
	When you try to transmit data sheet to Nissan after "Internal" data transmission, you can't see the "Send" button.("Propose" and "Published" are only indicated into the IMDS.)	When you transmit the data outside your company after sending it within your company, only the "Send" and "Publishing" buttons are indicated. You should choose "Send" button. If you choose "Publishing" button, everyone can freely look at the data sheet.
Parts supplied by Nissan	There are parts supplied by Nissan in the components, so for the IMDS input, what should I do?	Communicate to Nissan the Nissan part number (Level 1), along with the part number of the part supplied by Nissan and the original supplier of the supplied part that is included in the component. Nissan will request the original supplier of the supplied part to provide the IMDS data. Make the IMDS data, except for those parts supplied by Nissan.

11.Nissan Specific Checking

When the IMDS Company ID of Nissan is selected by the supplier for submitting material datasheets, Nissan Specific Checking is done in addition to the normal check in IMDS.

Table4. Nissan Original Messages

Messages		**Action**
Tolerance	Error: Company/Organization Name: {1}: Weight tolerance has exceeded ±5%.	Please correct Tolerance of the component within 5%.
Development sample report	Development sample report is checked. Nissan does not use this check box. Please uncheck it.	Please uncheck it.
Wild Card	Error: Company/Organization Name: Checkbox "Wild card does not contain GADSL substance." has not been activated..	Please confirm the description material of GADSL is not contained in the wild-card and check this box.
	Error: Company/Organization Name: {2}: "Request/Hg/Cr6/Cd/Pb" cannot be used. Please input substance name.	The chemical: Request/Hg/Cr6/Cd/Pb cannot be used. Please give change to other materials.
Parts Marked	Warning: Company/Organization Name: {1}: "Polymeric part(s) marked" has been selected "No" or "Not Applicable" even though the total amount of Material classification 5.1, 5.1.X, 5.4, 5.4.X, 5.5, and 5.5.X exceeds 100g.	Please confirm NESD0031.
	Error: Company/Organization Name: {1}: Total amount of Material classification 5.1, 5.1.X, 5.4, 5.4.X, 5.5, and 5.5.X exceeds 100g. Please input "Polymeric part(s) marked".	Please input "Polymeric part(s) marked".
	Warning: Company/Organization Name: {1}: "Polymeric part(s) marked" has been selected "No" or "Not Applicable" even though the total amount of Material classification 5.2 and 5.3 exceeds 200g.	Please confirm NESD0031.
	Error: Company/Organization Name: {1}: Total amount of Material classification 5.2 and 5.3 exceeds 200g. Please input "Polymeric part(s) marked".	Please input "Polymeric part(s) marked".
Prohibited Substances	Prohibited substance restricted by Nissan is contained. Please confirm Nissan requirement NES M0301. Even if this warning is indicated, no problem when substance contents is less than threshold.	Please confirm NESM0301 and the relating regulations.
Material Symbol	Error: Company/Organization Name: {2}: Material classification is 5.1, 5.1.X, 5.2 or 5.3. Please input "Symbol".	Please input "Symbol"

{1}:Compornent name, {2}:Material Name,