Hyundai Motor · Kia IMDS Guidance

Version 10.0

Revision	Korean	English	Changes
IMDS 3.1	2005.07.15	2006.02.21	
IMDS 4.0	2006.06.01	2006.05.17	
IMDS 5.0	2007.05.28	-	
IMDS 6.0	2008.07.09	-	
IMDS 7.0	2009.09.01	-	
IMDS 7.1	2010.06.01	-	
IMDS 7.1-1	2011.04.15	-	
IMDS 8.0	2012.06.22	2012.06.22	
IMDS 8.1	2013.05.27	2013.05.27	Recipient, IMDS service center
IMDS 8.2	2014.05.14	2014.05.14	Applied plant, Recipient, Change terms
IMDS 8.3	2015.06.15	-	Recipient, Preliminary MDS, Norm/standard
IMDS 8.4	2017.5.24	2018.3.9	Recipient, weight allowance, EO information, etc.
IMDS 8.5	2018.7.23	2018.7.23	Add recipient (HMI)
IMDS 8.6	2018.12.4	2018.12.4	Add recipient (HMB)
IMDS 8.7	2019.1.10	2019.1.10	Add recipient (KMI)
IMDS 9.0	2020.2.26	2020.2.26	Add recipient (Subsidiary materials) etc.
IMDS 10.0	2021.6.7	2021.6.7	Add recipient (HMMI)(HMMR), Change company name, Enter Material Recycling Information, etc..

Hyundai · Kia IMDS(International Material Data System) Guidance is the minimum requirement when MDS (Material Data Sheet) is created and submitted by suppliers. It is used as the acceptance criteria for supplier MDS. Suppliers sending MDS are responsible for disadvantage caused from noncompliance with this guidance. The current version of this guidance can be downloaded in IMDS public page and is prohibited to distribute this guide with arbitrary modification.

HYUNDAI
MOTOR GROUP

Summary

1. Please be well-informed of basic IMDS instructions from following documents before reading this guidance

    1) Information supplied from DXC company
        - General system instruction
          : http://mdsystem.com → See 'Online user manual' in System Login screen
        - How to create a material MDS
          : http://mdsystem.com → See 'How to create a material MDS' in System Login screen
        - How to create a component MDS
          : http://mdsystem.com → See 'How to create a component MDS' in System Login screen
        - IMDS Recommendations
          : http://mdsystem.com → System Login → See 'Recommendation' of the 'Help' in main screen

    2) IMDS training course
        - 1 day IMDS training course is running by DXC who manage and support IMDS. Please request training if needed in IMDS homepage.

    3) See the training movies provided by Hyundai · Kia in order to do basic instruction during
        very short time : http://mdsystem.com → IMDS Information Pages → Help → OEM Specific Info. → Hyundai Motor and Kia

2. This guidance is written based on IMDS Recommendations. If guidance and IMDS Recommendations are mismatched, please follow this guidance.

3. MDS recipient should be based on corresponding vehicle manufacturing plant. MDS sent to other recipient is not valid even if it is accepted (refer to 3.1.1 of this guidance).

Company	Plant	Recipient [Org. unit ID]
HMC (passenger car)	• All parts produced in Korea plants • All parts supplied to Czech plant (HMMC) • All parts supplied to Turkey plant (HAOS)	HYUNDAI MOTOR COMPANY **[71405]**
	• Local parts supplied to India Plant (HMI) • GKD * parts supplied to India Plant (HMI)	HYUNDAI MOTOR INDIA (HMI) **[192766]**
	• Local parts supplied to Alabama Plant (HMMA) • GKD parts supplied to Alabama Plant (HMMA)	HYUNDAI MOTOR ALABAMA (HMMA) **[119671]**
	• Local parts supplied to Brazil Plant (HMB) • GKD parts supplied to Brazil Plant (HMB)	HYUNDAI MOTOR BRAZIL (HMB) **[128948]**
	• Local parts supplied to Russia Plant (HMMR**) • GKD parts supplied to Russia Plant(HMMR)	HYUNDAI MOTOR RUSSIA (HMMR) **[128949]**
	• Local parts supplied to Indonesia Plant (HMMI) • GKD parts supplied to Indonesia Plant (HMMI)	HYUNDAI MOTOR MANUFACTURING INDONESIA (HMMI) **[225598]**
KIA (passenger car)	• All parts produced in Korea plants • All parts supplied to Slovakia Plant (KIA)	KIA COPRPORATION **[71406]**
	• Local parts supplied to Georgia Plant (KaGA) • GKD parts supplied to Georgia Plant (KaGA)	Kia GEORGIA (KaGA) **[119673]**
	• Local parts supplied to Mexico Plant (KMX) • GKD parts supplied to Mexico Plant (KMX)	Kia México S.A. de C.V (KMX) **[175429]**
	• Local parts supplied to India Plant (KIN) • GKD parts supplied to India Plant (KIN)	KIA India Private Limited (KIN) **[198329]**
Commercial Vehicle	• All parts applied to commercial vehicles	HMC/KIA COMMERCIAL VEHICLE **[155405]**
Special Vehicle	• All parts supplied to HMC Special Vehicle	HMC SPECIAL VEHICLE **[155406]**
	• All parts supplied to KIA Special Vehicle	KIA SPECIAL VEHICLE **[156364]**
-	• Subsidiary materials applied to vehicles produced in Hyundai · Kia	HMC/KIA SUBSIDIARY MATERIALS **[205676]**
-	• Development parts of the ESIR stage of all parts.	HMC/KIA ESIR **[214102]**

* Parts supplied from other countries besides Korea to local plants
  (ex : Part is produced in China and supplied to HMI)
** Please input the Russian factory when requested.

4. Please call to followings for any questions about system

  - Hyundai Motor/Kia (quiries about the reason for refusal, Hyundai Kia Data Approval Standards, etc.)

Work	Contact person	Phone Number	Email
IMDS	Park, Hye Young	+82 31 8036 3579	phy1024@hyundai.com

  - ISIR system regarding IMDS

Work	Contact person	Phone Number	Email
ISIR	Lee, Ji Ae	+82 2 801-4321	leejiae@hyundai-autoever.com

  - IMDS Service Center (access authority / instructions / IMDS Recommendations etc)

Region	Service Hour (Mon~Fri, local time)	Phone Number	Email
Korea	9:00am - 05:00pm (GMT+9)	+82 2 6138 3661	imdsk-helpdesk@dxc.com
Europe (English support)	8:00am - 4:30pm (GMT+1)	+36 1 778 9821	imds-helpdesk-emea@dxc.com
Europe (French, Germany support)	8 a.m. ~ 4.30 p.m. (GMT+1)	+33 1 57 32 4856 or +36 1 778 9821	imds-helpdesk-emea@dxc.com
North America	8:00am - 5:00pm (CST)	+1 844 650 4217	imds-helpdesk-english@dxc.com
Japan	9:00am - 5:00pm (GMT+9)	+81 3 4530 9270	jpimds-helpdesk@dxc.com
China	9:30am - 5:00pm BST(GMT+8)	(+86) 021 60465988	imds-helpdesk-china@dxc.com

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3. Sending MDS and change management

※ References

1. 1 Backgrounds of IMDS (International Material Data System)

It is developed and operated by automobile manufacturer and solution company, DXC in order to comply with global chemical regulations, and it secures and controls chemicals as well as weight information of automobile parts through supply chain (raw material supplier → tier 2nd → tier 1st → automobile manufacturers)

Tier 1~nth/Raw material)	IMDS server	Automobile manufacturers
Send/modify	review/approval	
Creating material information and sending	Data receiving and save	Confirmation and approval
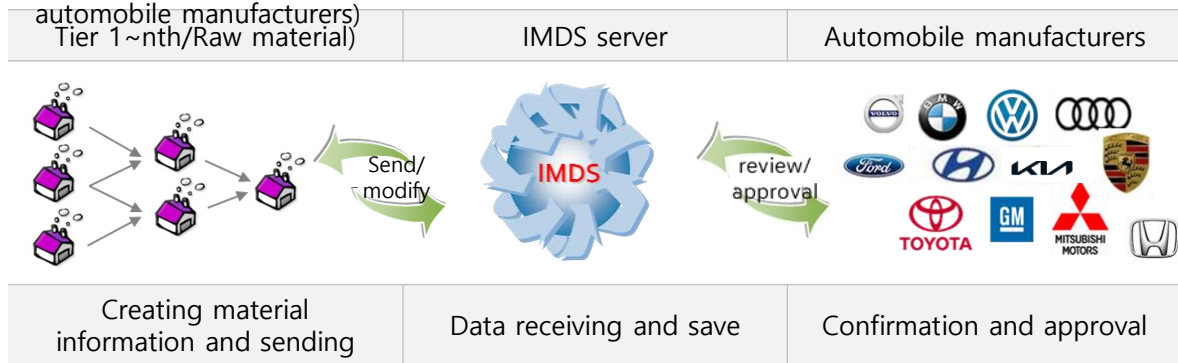
1.2 IMDS Access Authority Request

- If your company access to IMDS for the first time,

: You can take the access authority through the online registration in web-page below.

※ http://mdsystem.com → New to IMDS → 'Company Registration' → follow registration procedure after click 'Online Registration'

- If Your company already registered to IMDS, request access authority to your client manager

※ Please contact with IMDS Service Center for your company registration

(IMDS Service Center : refer to 'Summary' of this guidance for inquiry)

1.3 How to access IMDS

http://mdsystem.com → click 'Login' → Input User ID and Password → After change password (8~12 digits combining alphabet and number), the service is available

1.4 Timing of Sending MDS and Application Scope

- Target parts of ESIR : MDS of the parts should be received and accepted 3 months prior to Pilot stage.

※ MDS (Material Data Sheet) : Unit of IMDS data

- Without specified, MDS should be received and accepted 1 month prior to M stage.

- If specifications of part are decided after M stage, MDS of the parts should be input right after specification decision.

- It takes 1 day to download MDS from IMDS on-line system to the internal system. Therefore it is not possible to approve MDS right after receiving it.

- Please keep in mind it takes 2~4 days to process MDS approval after receiving it.

1.5 Application scope

Category	Application Scope
Vehicle Type and plants	All of Passenger Car, truck and commercial cars produced in H/KMC - HMC : all plants in Korea, HMMC, HAOS, HMI, HMMA, HMB, HMMI,HMMR - KIA : all plants in Korea, KaGA, KIN, KMX, ※ IMDS does not applied to vehicles produced in China plants ※ It can be changed according to global policy of HMC / KIA
Unit of input	MDS should be created and sent as end-item which supplies to HMC/KIA plants.
Target Parts	• All the parts and subsidiary materials applied to vehicle • When there are change of material, chemicals and its contents, and weight of part (over 3% of total weight), approved MDS should be revised and re-approved. • When HMC/KIA request MDS additionally to comply with various environmental regulations

Supplier	• Raw material supplier : send MDS to tier n
	• Tier 2/3/4/..n : send MDS to upper level through supply chain
	• Tier 1 : Creating MDS after collecting from lower level supply chain
	  → send it to HMC/KIA
	• How to input Assembly part including direct purchased part **
	  - Input all the data except direct purchased part, but follows our rule regarding direct purchased part (refer to 2.5.2)

1.6 Input Conformity

1.6.1 IMDS Recommendations

- Since IMDS recomendations were written by mutual agreement between IMDS Steering Committee and members and are common operation standards for all automobile manufacturers worldwide who are operating IMDS, users should conform to them with fully understanding when writing MDS in order not to cause any disadvantage due to input error.
- You can find them http://mdsystem.com → log in → help → Recommendation.
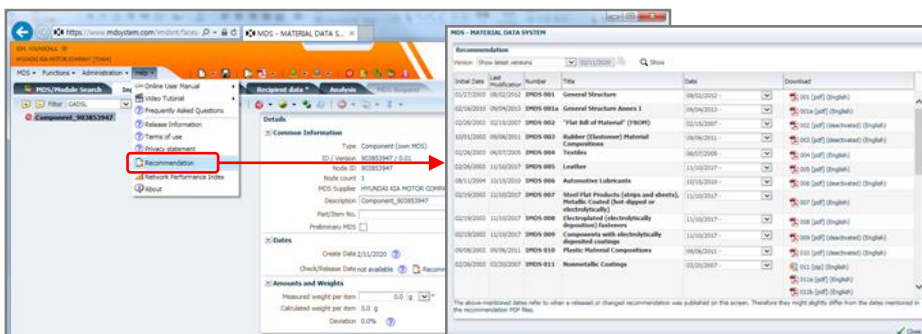
1.6.2 Hyundai · Kia IMDS Guidance

- Each car manufacturer can request different rules in the Recommendations or additional rules besides these Recommendations depending on their internal situation.

  All of the suppliers sending MDS to HMC / KIA should follow 'Hyundai · Kia IMDS Guidance'.

- Guidance of all automobile manufacturers including Hyundai, Kia can be inquired from

 http://mdsystem.com > IMDS Information pages > Help > OEM specific information

1.7 Understanding Basic Property of MDS

1.7.1 How to Express Elements of Part as Characters and Tree Structure

① Parts in IMDS are expressed as icon as following and should be observed when creating MDS

Category	Term Description	Icon	Sample
Component	Define assembly part or sub-part consisting assembly part		▽ 🔴 BOLT 　▽ 🔴 1× BOLT123 　　▽ 🟢 0.0g STEEL 　　　🔷 12.0 - 13.0% Carbon 　　　🔷 5.0 - 6.0% Manganese 　　　🔷 82.0% Iron
Semi-component	Used in semi-product need to proceed additional process step (cutting, stamping). The addition of dimensional data (kg/m3, kg/m, kg/m2) is possible.		▽ 🔴 1× CHROMATED COATING 　▽ 🟡 0.1g CHORMATED FILM YELLOW 　　▽ 🟢 0.0 - 0.0% CHROMATED FI
Material	Material composing components and is consisted of basic substances		🔷 85.0% Basic chromic sulfate
Basic substance	Chemicals composing materials and minimum unit with material characteristics		🔷 10.0% Zinc (metal) 🔷 5.0% Misc., not to declare

② Part assembly structure is expressed as tree structure in IMDS and should be conform to the actual part composition when creating MDS.
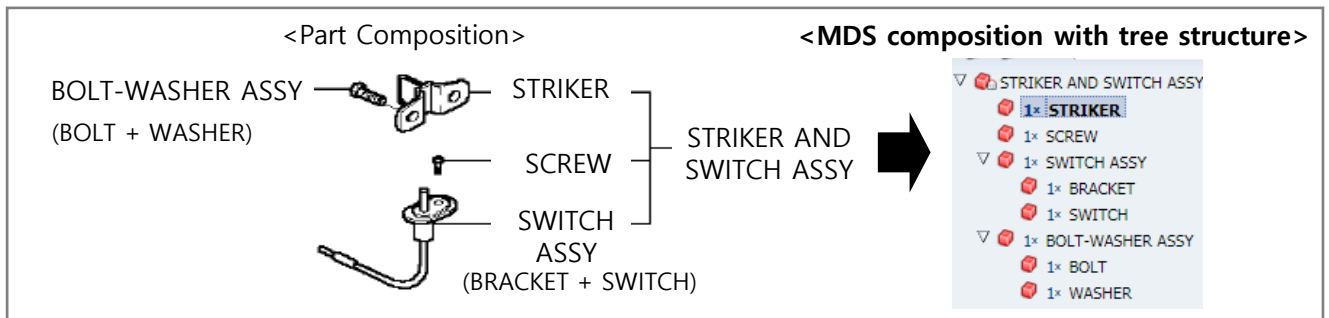
③ If the same sub part is applied to different parent parts, it should be composed to its parent part.
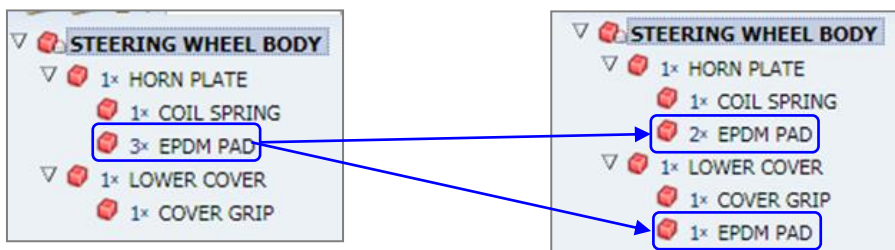
④ MDS should be created in conforming with part composition, quantitiy, material and surface treatment in drawing

I/NO	PART_NO	PART_NAME	
001	79111-4D000	ARM-HOOD HINGE,LH	01
002	79121-4D000	ARM-HOOD HINGE,RH	
003	79112-4D000	BRKT-HOOD HINGE,LH	01
004	79122-4D000	BRKT-HOOD HINGE,RH	
005	KK370-52713	PIN-HINGE	01
006	KK370-52714	BUSH-BONNET HINGE	01
007	13905-06000	NUT-WELD	01

Conform to part composition

HINGE ASSY-HOOD, LH
- 1× ARM-HOOD HINGE, LH
- 1× BRKT-HOOD HINGE, LH
- 1× PINN-HINGE
- 1× BUSH-BONNET HINGE
- 1× NUT-WEND

<Part Composition in Drawing>   <MDS Composition & Quantity of sub-parts>

Material/ surface treatment conformity

BOLT-FLANGE
- 0 0g SCM435
- 0 0g DZnCr-

<Material and Surface Treatment in BOM>   <Main material and surface treatment in MDS>

1.7.2 Understanding Part and Data Flow through supplier chains

Check part and data flow through tier 1/2/3/4

- Classfying as own parts and direct purchased parts

- Figuring out responsible person of each suppliers and data trasmission and reception path

1.7.3 Measuring Part Weight and Analysis of Substances in Material

- Figure out the weight of assembly and sub-parts, and reflect them to data sheet

- Figure out all materials composing parts (major material, additives, other fillers and stiffners etc) and reflecting results to data sheet after analyzing substances at each material through authorized analysis agency or own analysis

- Published data in IMDS can be used, but material composition in published data should be conform to your material composition

   ※ Reliable data published from : IMDS Committee (company ID : 423), IMDS-Committee/ILI Metals (company ID : 18986), Stahl und Eisen Liste (company ID : 313)

   ※ As determined by the IMDS Steering Committee, IMDS Guidelines 019 from 2021.5.19.

   Use of (IMDS Recommendation 019) is prohibited. Accordingly, the relevant public data (ZVEI-Rec019, Enterprise ID: 102677) is not available. (Modify existing data)

1.8 Threshold of prohibited substances / material marking

- Substances prohibited or restricted by MS201-02 are not allowed to use.

  If they are existed, check whether it is below the threshold or allowed followed by exceptional use in MS201-02

- Check material marking for plastic and rubber materials followed by MS201-01..

  ※ MS201-01 : Hyundai Motor·Kia Material standard for '**Marking of materials for automotive parts**'

1.9 IMDS – ISIR Work Flow

MDS for ISIR target parts (developed part or changed part) should be approved according to following work flow and registered to Partner system.

  ※ MDS which is sent to wrong recipient or not approved is not valid

  (Please see how to select recipient refer to 3.1.1)

ISIR Final Approval
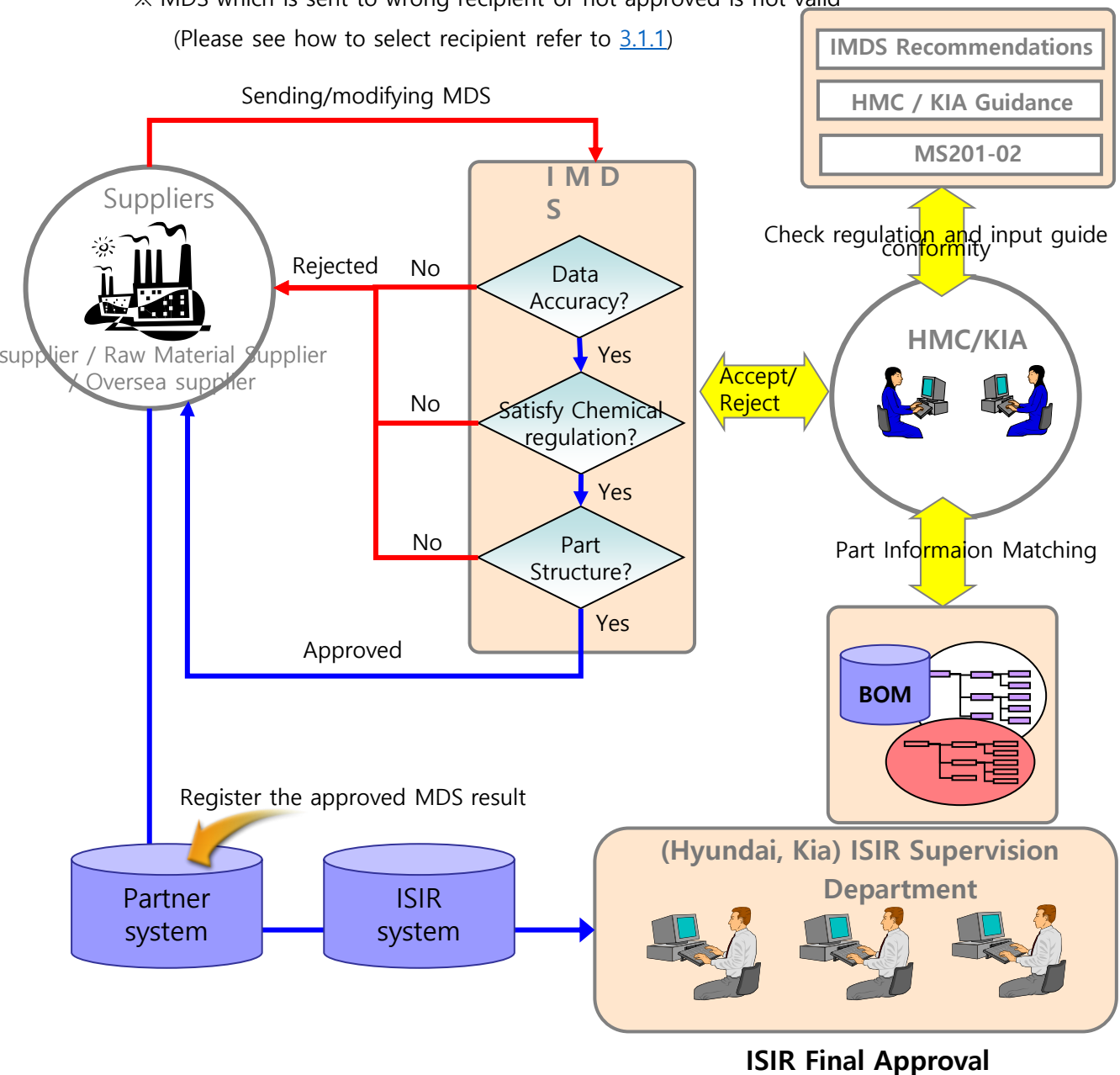
2.1 ID / Version Management

- What is ID / Version?

ID is the number created automatically when creating MDS and Version means change history of data sheet. The same ID should be used for the same part number.

[ID / Version]

- MDS sent to HMC / KIA should be conformed to following rules.

● **Creating data sheet with new ID** (Example : 114918315/0.01 → 114918316/0.01)

: In case of the first IMDS input part, new developed part, changed part number of part

● **Creating data sheet with the same ID with already accepted MDS**

(Example : 114918315/**0.01** → 114918315/**0.02**)

: When already created MDS is changed (sub part added/deleted, material change, substance or

substance content change, color change, total weight change of +-3%)

※ Even approved MDS should be reapproved after reflecting changes in case of the above changes.

● see 'References' in this guidance about how to create data sheet related to ID / Version

New part Number	Part Number change	GADSL Change	Material Change	Part Weight Change	request of MDS re-entry due to regulation related issue

New ID	Version up with same ID
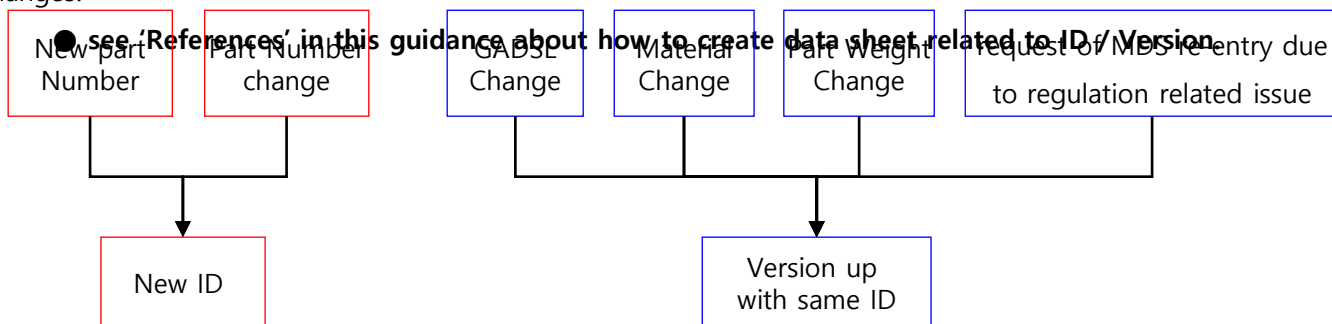
[ID / Version management rules when creating data sheet]

2. 2 Description and Part / Item No.

- Description field should be 'conform' or 'similar' to part name in HMC / KIA BOM (Bill of Materials) and be written with English capital letter
- Part/Item No. should be 'matched with the part number in HMC/KIA BOM.
- Also, part name and part number of sub-component should be matched with HMC/KIA. But, supplier part number and part name can be used if they are not existed in HMC/KIA BOM

● Description
- Use the same or similar part name to HMC / KIA BOM
- Part name should be written with English capital letter

Description	Part name in HMC/KIA BOM	Result
ASM-KIA-MG	SEAT BELT ASSY-FR P/T 3PT, LH	Reject
I.S.C ACTUATOR	IDLE SPEED CTL ACTUATOR	Accept
i.s.c actuator	Idle speed ctl actuator	Reject

Details

Common Information

Type	Component (received MDS)
ID / Version	725614714 / 0.01
Node ID	725614714
Node count	24
MDS Supplier	ASUNG PLATECH CO.LTD
Description	CLAMP SPARE TIRE
Part/Item No.	62850-3X000
Preliminary MDS	No

Dates

Create Date 3/2/2018 ⑦

Release Date not available ⑦

Check Date 3/2/2018 ⑦ Recommendation

Amounts and Weights

Measured weight per item 46.4 g
Calculated weight per item 46.4 g
Deviation 0.0% ⑦

● Part/Item No.
- Should be followed to the typical format of HMC / KIA BOM
   ※ HMC / KIA part No. format : 12345-67890 ☜ insert '-' between number 5 digit and 5 digit.
      No spacing between numbers
- If same part number but differnt color only, adding color mark with alphabet combination or alphabet-number combination after part number is possble.
   Example) 56900-3L100**WK** , 37160-2G000**T3**
- If part number is different for the same part name , each part number should be transmitted separately.
   Example) 88870/88880-1E000 → 88870-1E000 (transmit), 88880-1E000 (transmit)
- For the directly supplied materials such as lubricant, fuel, paint, sealant, etc, Vaatz code of product as Part /Item No. can be available.

2. 3 Deviation between measured weight and calculated weight

- Weight deviation of component should be satisfied with the below table for component.

$$\text{Deviation} = \left(\frac{\text{Measured weight per item} - \text{Calculated weight per item}}{\text{Measured weight per item}} \right) \times 100$$

Component weight (X)	Max deviation (%)
X<1g	100
1g ≤ X < 100g	10
100g ≤ X < 1kg	5
1kg ≤ X < 10kg	2
10kg ≤ X < 100kg	1
X ≥ 100kg	0.5

Details

Common Information

Type	Component (own MDS)
ID / Version	722410467 / 0.01
Node ID	722410467
Node count	1
MDS Supplier	HYUNDAI KIA MOTOR COMPANY
Description	Component_722410467 *
Part/Item No.	
Preliminary MDS	☐

Dates

Create Date 2/19/2018 ?

Check/Release Date not available ? Recommendation

Amounts and Weights

Measured weight per item	0.0 g *
Calculated weight per item	0.0 g
Deviation	0.0% ?

2. 4 Preliminary MDS

- HMC/KIA does not use 'Preliminary MDS' and it does not need to be checked.

  ※ Preliminary MDS : MDS created before detailed development stage in order to calculate a
     recyclability. Normally it does not have the detailed information of chemical composition.

KIM, YOUNGCHUL
HYUNDAI KIA MOTOR COMPANY [71404]

MDS ▾ Functions ▾ Administration ▾ Help ▾

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

Filter GADSL ✓ show regulatory information

test MDS

Details

Common Information

Type	Component (own MDS)
ID / Version	722410467 / 0.01
Node ID	722410467
Node count	1
MDS Supplier	HYUNDAI KIA MOTOR COMPANY
Description	test MDS *
Part/Item No.	
Preliminary MDS	☐ **Do not check this box**

Dates

Create Date 2/19/2018 ?

Check/Release Date not available ? Recommendation

Amounts and Weights

Measured weight per item	0.0 g *
Calculated weight per item	0.0 g
Deviation	0.0% ?

2.5 Material Classification Selection

Since material classification is the key for material marking, application codes of heavy metals and recycle information, it should be properly selected according to material characteristics. (refer to below material content condition table at each material classification)

2.5.1 Chemical Content Condition for each Material Classification

- It should satisfy chemical content condition according to material classification

Classification No.	Classification Name	Must contain*	CAS No. or Substance Group
1.1.1	unalloyed, low alloyed	Iron (Fe) ≥ 65%	7439-89-6
1.1.2	highly alloyed	Iron (Fe) ≥ 30%	7439-89-6
1.2.1	Cast iron with lamellar graphite / tempered cast iron	Iron (Fe) ≥ 70%	7439-89-6
1.2.2	Cast iron with nodular graphite / vermicular cast iron	Iron (Fe) ≥ 55%	7439-89-6
1.2.3	Highly alloyed cast iron	Iron (Fe) ≥ 14%	7439-89-6
2.1.1	Cast aluminum alloys	Aluminum (Al) ≥ 50%	7429-90-5
2.1.2	Wrought aluminum alloys	Aluminum (Al) ≥ 50%	7429-90-5
2.2.1	Cast magnesium alloys	Sum of Mg and Magnesium powder (stabilized) ≥ 50%	Chk : Magnesium
2.2.2	Wrought magnesium alloys	Sum of Mg and Magnesium powder (stabilized) ≥ 50%	Chk : Magnesium
2.3	Titanium and titanium alloys	Titanium (Ti) ≥ 50%	7440-32-6
3.1	Copper (e.g. copper amounts in cable harnesses)	Copper (Cu) ≥ 93%	7440-50-8
3.2	Copper alloys	Copper (Cu) ≥ 48%	7440-50-8
3.3	Zinc alloys	Sum of Zinc substances ≥ 70%	Chk : Zinc
3.4	Nickel alloys	Nickel (Ni) ≥ 50%	7440-02-0
3.5	Lead	Lead (Pb) ≥ 50%	7439-92-1

* Corresponding chemicals should be contained more than written content.
  (Ex) Material Class, 1.1 Steels / cast steel / sintered steel should contain over 50% of iron (Fe).

<Continue>

Classification No.	Classification Name	Must contain*	CAS No. or Substance Group
4.1	Platinum / rhodium	Sum of platinum and rhodium ≥ 50%	Chk: Platinum / Rhodium
4.2	Other special metals	Other metals or their sum ≥ 50%	Special metals
5.1.a	filled Thermoplastics	Sum of substances containing ...poly... in their names excluding sum of Basic Duromers ≥ 5%	Chk: Named *poly* w/o duromers
5.1.b	unfilled Thermoplastics	Sum of substances containing ...poly...in their names excluding sum of Basic Duromers ≥ 5%	Chk: Named *poly* w/o duromers
5.2	Thermoplastic elastomers	Sum of substances containing ...poly...in their names excluding sum of Basic Duromers ≥ 5%	Chk: Named *poly* w/o duromer
5.3	Elastomers / elastomeric compounds	Sum of Basic Rubbers or substances containing ...poly... in their names excluding Basic Polymers and Basic Duromers and ≥ 5%	Chk: Named *poly* + elastomer w/o polym./durom.
5.4.1	Polyurethane	Sum of substances containing ...poly... in their names ≥ 5%	Chk: Named *poly*
5.4.2	Unsaturated polyester	Sum of substances containing ...poly... in their names excluding sum of Basic Polymers ≥ 5%	Chk: Named *poly* w/o polymers
5.4.3	Other duromers	Sum of substances containing ...poly... in their names excluding sum of Basic Polymers ≥ 5%	Chk: Named *poly* w/o polymers
5.5	Polymeric compounds (e.g. inseparable laminated trim parts)	Unconditional	
5.5.1	Plastics (in polymeric compounds)	Sum of substances containing ...poly... in their names ≥ 5%	Chk: Named *poly*
6	Process polymers	Unconditional	
6.1	Lacquers	Sum of Basic Duromer or ...poly ≥ 5%	Chk: Named *poly* and duromers

2.5.2 Chemical Non-Content Condition for each Material Classification

- When creating data sheet, following selected material classification should satisfy corresponding chemical non-content condition

Classification No.	Material Classification Name	Must not contain*	CAS No. or Substance Group
5.5.2	Textiles (in polymeric compounds)	Sum of substances corresponding to material classification 1~4 ≥ 95%	Chk: Classification 1-4
6.2	Adhesives, , sealants	Sum of substances corresponding to material classification 1~4 ≥ 95%	Chk: Classification 1-4
6.3	Underseal	Sum of substances corresponding to material classification 1~4 ≥ 95%	Chk: Classification 1-4
7.1	Modified organic natural materials (e.g. leather, wood, cardboard, c...	Sum of substances corresponding to material classification 1~6 ≥ 50%	Chk: Classification 1-6
7.2	Ceramics / glass	Sum of substances corresponding to material classification 1~4 ≥ 80%	Chk: Classification 1-4
9.1	Fuels	Sum of substances corresponding to material classification 1~6 ≥ 50%	Chk: Classification 1-6
9.2	Lubricants	Sum of substances corresponding to material classification 1~4 ≥ 50%	Chk: Classification 1-4
9.3	Brake fluid	Sum of substances corresponding to material classification 1~4 ≥ 50%	Chk: Classification 1-4
9.4	Coolant / other glycols	Sum of substances corresponding to material classification 1~4 ≥ 50%	Chk: Classification 1-4
9.5	Refrigerant	Sum of substances corresponding to material classification 1~6 ≥ 50%	Chk: Classification 1-6
9.6	Washing water, battery acids	Sum of substances corresponding to material classification 1~6 ≥ 50%	Chk: Classification 1-6
9.7	Preservative	Sum of substances corresponding to material classification 1~4 ≥ 50%	Chk: Classification 1-4
9.8	Other fuels and auxiliary means	Sum of substances corresponding to material classification 1~4 ≥ 50%	Chk: Classification 1-4

* Corresponding chemicals should not be contained over written content

(Ex) In material classification 5.5.2 Textiles (in polymeric compounds), sum of substances corresponding to material classification 1~4 should not be contained over 95%

2.6 Create Material Data

2.6.1 Material Name

- Name to defining material should be used but commercial
  name should not be used. Commercial name should be
  entered to 'Trade name' in the right screen shot.
  : Material name writing should follow below standards
  ① Steel : EN10027, JIS Standard (ex. STM-C 540)
  ② Aluminum Alloy : EN 573, JIS Standard (ex. AI-Si12)
  ③ Copper Alloy : ISO Standard (ex. CuAl5)
  ④ Plastic : ISO 1043-1~4 (ex. PE-LD)
  ⑤ Rubber : ISO 1629 (ex. ACM)
  ⑥ Thermoplastic elastomers : ISO 18064
       (ex. TPA-ES)

- Besides of above standard, material name should be
  expressed which can identify the properties of material.
  (ex. : Aluminum alloy, adhesive layer, Glass, Basecoat,
  Lubricant, etc.)

2.6.2 Preliminary MDS

- HMC/KIA does not use 'Preliminary MDS' and it does not need to be checked.
  ※ Preliminary MDS : MDS created before detailed development stage in order to calculate a
     recyclability. Normally it does not have the detailed information of chemical composition.

2.6.3 Standard / Norm

- Enter HMC/KIA MS number for material requirement.
  ① If there are two or more MS for a material, each MS number should be entered.
     ※ Only your company and HMC/KIA can see MS information of material which is entered.
  ② ES is not mandatory.

2.7 Parts Composition

2.7.1 Creating Tree Structure

- MDS should be created with tree type by combination of component, semi-component, material and basic substance. See the correct examples as reference.

● Correct Tree Structure (example)
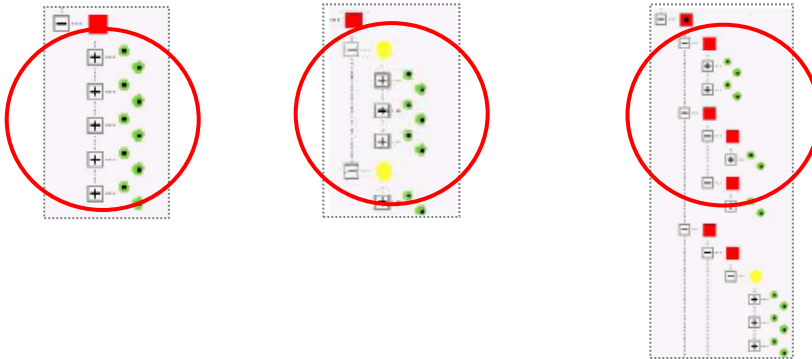
● Incorrect Tree Structure (example)

① Material (●) must be located between component and substances

② Material (●) must be located between semi-component and substances
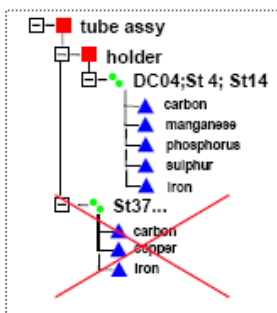
③ Same level component (■) and material (●) can't come together
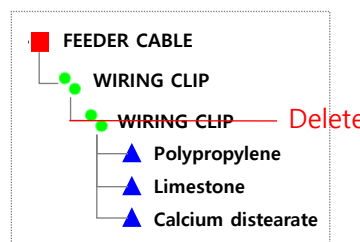
④ Single matgerial (●) should not exist below to upper material
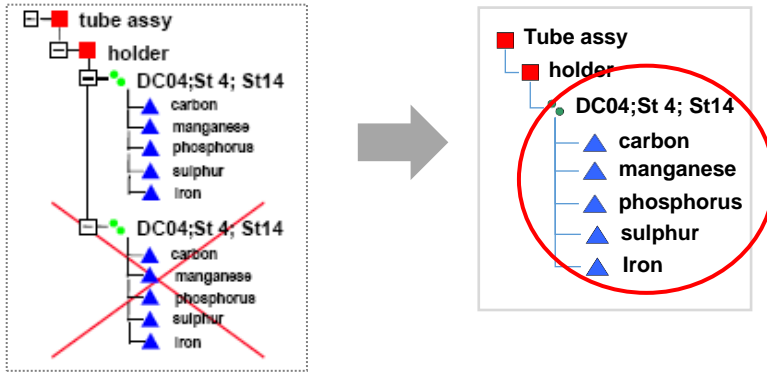
⑤ Same materials (🍂) should be composed by integration with one material

2.7.2 Part Composition including Direct-Purchasing parts

- When Direct-Purchasing parts are included in Assembly, input all the data except Direct-Purchasing parts. In case, Direct-Purchasing parts should be expressed as DUMMY PART

※ Except above case, dummy part can't be used

[Example] Assembly having Direct-Purchasing parts

LEVEL	Part Name	Part No.	QT	Remark
1	MODULE-WHEEL & TPMS	52909-2S320	-	-
2	WHEEL-ALUMINUM	52910-2S200	1	-
2	NUT-TPMS	52930-2F000	2	-
2	VALVE-TPMS	57000-1X000	2	Direct Purchasing part

→ If VAVLVE-TPMS is Direct-Purchasing parts, express it as dummy part (refer to below)

● How to make DUMMY PART
- For details of component, input below values for all the dummy part
  ► Description → 'DUMMY PART'
  ► Measured weight per Item → '1g'
  ► Part/Item No. and Quantity→ actual quantity and part number
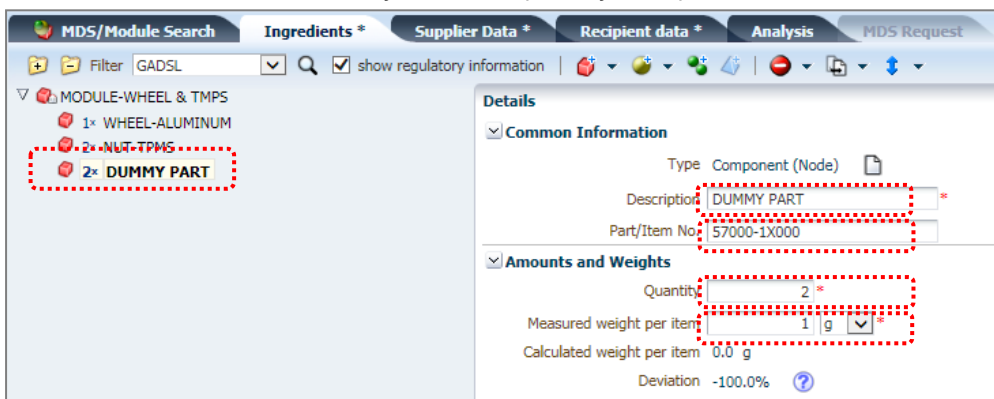
● How to add DUMMY PART and dummy material.

① Search published data by HYUNDAI KIA MOTOR COMPANY and attach it to 'DUMMY PART'
(**ID : 251168843**)

Search with ID '**251168843**' or name '**Hyundai-kia**' in published search field.

search result
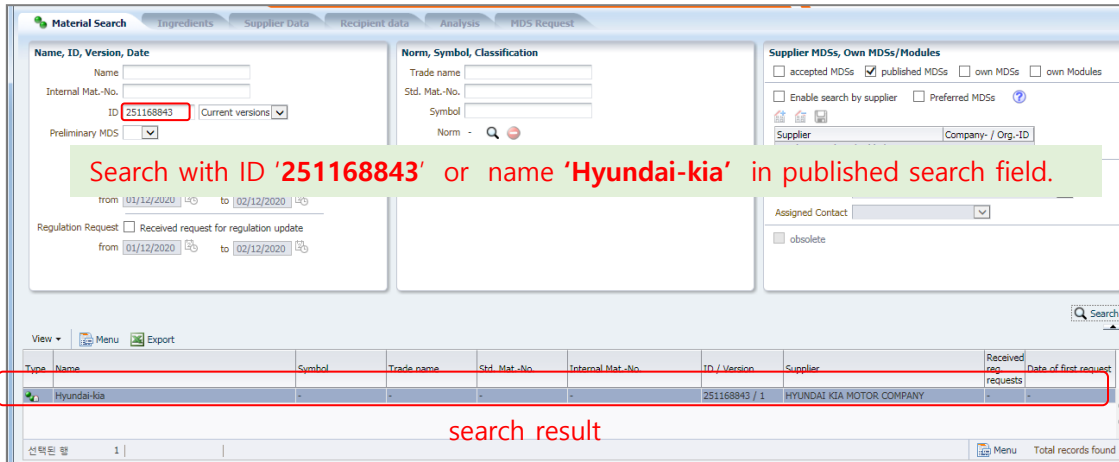
② Input weight '**1g**'

Weight : '1g'
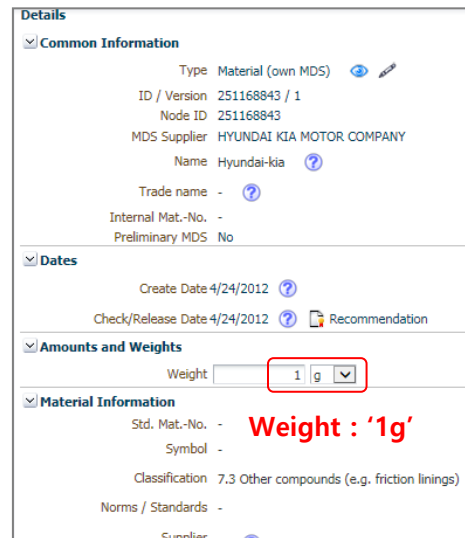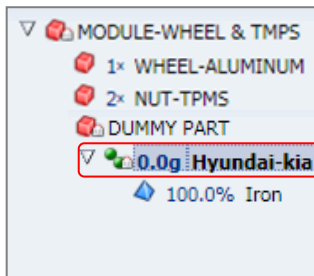
2.7.3 Creating Material Data at each Material Characteristics

- General method to create material data sheet follows IMDS Recommendation 001. In addition, the material data sheet data according to each material characteristics follows MDS Recommendation 002~023. But, next cases should follow below rule

① Each material data sheet should be created separately for layer with consisted of two or more different materials

Sliding layer
Al alloy
Steel back
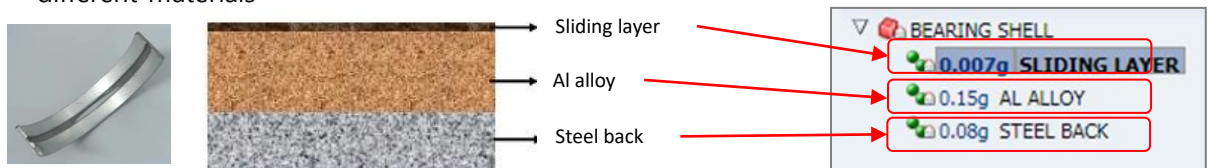
[(Ex) Part composed with layer type by 3 different materials]

3 kinds of materials should be composed separately

② Since plastics are composed of polymer and subordinate materials (pigment, filler, flame retardant, other additives), it can not be composed with single substance only and particularly for PVC (polyvinylchloride), all contained substances should be written.

③ Basic substances in material should be input for materials remained at final product stage and exclude basic substances not remained at final products (Ex : when solvents contained in paint, ink are evaporated at final product)

2.7.4 Support for Multi-sourcing (if the same part is supplied from more than one subcontractor)

- Multi-sourcing function is applied to components only.
- It will be possible to reference alternative MDSs for one component from different suppliers in a new MDS.
- One of the alternatives will need to be defined as the preferred alternative, which will be used e.g. for weight calculations.
- All other alternatives will also be part of the MDS's ingredients allowing their content to be also found by the where-used-ana
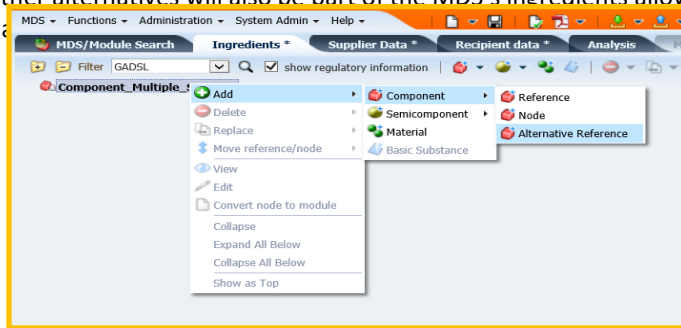
Add to component>Component> Alternative Reference
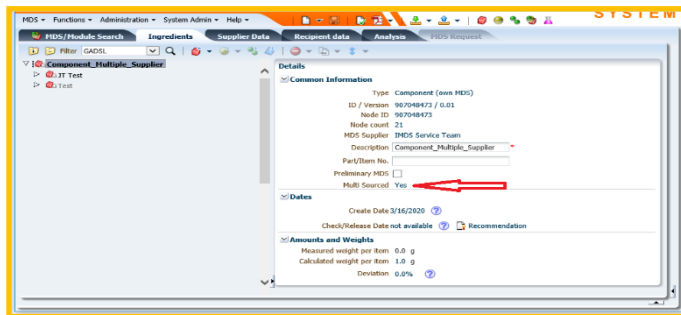
Constructing multi-sourcing parts of supplier 1, supplier 2
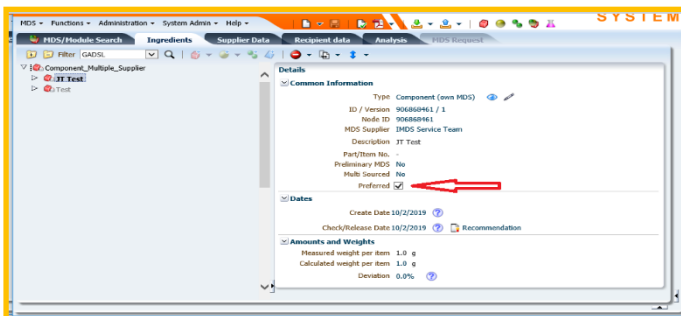
Check preferred one between multi-sourced parts.

2.8 Ranged Values

- Allowable ranges of component, Component, Semi-component/Material and Basic substance
  - ● weight or content can be input selectively with range, Fix, Rest and when choose 'range', below allowable range values are applied according to 'IMDS Recommendation 001'

[allowable range values]

item	Content Rate (From X % to Y %)	Tolerance (M = Y % – X %)
Subcomponent	0 < x ≤ 100%	Follows tolerances in drawing
Semicomponent/ Material	0 < x ≤ 100%	M ≤ 20 %
Basic substance	0 ≤ x ≤ 7.5	M ≤ 3 %
	7.5 < x ≤ 20	M ≤ 5 %
	20 < x ≤ 100	M ≤ 10 %

<Ranged value of material>

<Ranged value of basic substance>

- ● Other exceptional tolerance of ranges should follow 'IMDS Recommendations'
- ● Semi-components or materials published by IMDS committee can be allowable even if they exceed tolerance

2.9 Weight Tolerance of MDS

- Weight tolerance (deviation between measured weight and automatically calculated weight per item) of the top-level component (total weight of MDS) can not exceed 5%

2.10 Basic Substance information

- Only basic substances contained in the final product are to be reported (example: cured adhesives or paint coatings are entered without the evaporating solvents).

- Basic substances registered to GADSL* should be input. In addition, since GADSL is continuously updated due to related regulation revision, the latest GADSL should be checked before creating or modifying data sheet (http://www.gadsl.org)

  * GADSL : Global Automotive Declarable Substance List

※ If SVHC* not included to GADSL are used, they should be input and not allowed to use wild cards or confidential for it.

  * SVHC : Substance of Very High Concern

● **Use of Confidential Substances**

Due to corporate confidence, data can be concealed not letting others read it and it can be used within 10% in homogeneous material.

If confidential substances are to use inevitably over 10%, MDS can be transmitted after designating **'Trust user'** and in this case, only trust user and data creator can see substance information.

　※ Trust User: it is designated when corporate confindential substance composition is open to particular addressee only. Trust user can not use data for other purposes other than data evaluation.

★ Trust User : HYUNDAI KIA MOTOR COMPANY , PARK HYE YOUNG (email : phy1024@hyundai.com)

● Wild cards

 - It is used for very high confidential and can not be exceeded over 10% in homogeneous material. (refer to 'IMDS Recommendation 001' for the kinds of wild card and how to use them)

　But, reliable published material data (refer to 1.7.3 Measuring Part Weight and Analysis of Substances

　 in Material) containing wild cards is allowed even though over 10% of wild cards are used in homogeneous material.

 - Basic substances included in GADSL should not allowed as wild cards. If substance is processed as wild cards and it is included in GADSL due to revision of GADSL, data sheet should be revised without wild cards and reapproved within 6 months after GADSL revision.

　※ Since GADSL is continuously changed due to new regulation or revision about chemical regulations , Confidential substance is rather recommended than wild cards for better history control.

<Wild Cards List>

1. Flame retardant, not to declare

2. Further additives, not to declare

3. Impact modifier, not to declare

4. Inorganic ingredient, not to declare

5. Misc. not to declare

6. not yet specified, not to declare (Not available)

7. Organic ingredient, not to declare

8. Pigment portion, not to declare

9. Plasticizer, not to declare
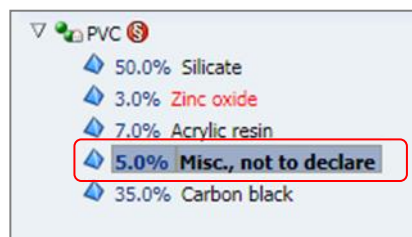
[Wild cards allowed within 10% in homogeneous material]

2. How to create MDS

● Gas / liquid

Gas / liquid not existed in final product (Ex: plating solvent, paint solvent, preprocessing cleaner) are excluded when creating MDS. If gas / liquid are included in final product, input data as selecting material classification 9.x (refrigerant, brake oil, lubricant, battery liquid, etc)

Exclude water not included in final product

● Process chemicals

Process chemicals used in the production of a material/part that are not contained in the end material/part must not be reported. But if they remain more than 0.1wt% in final materials, application of chemical should be chosen.

If process chemicals contained over 0.1wt%, choose one of 'Intended use', Reaction residue', 'Impurity'.

● 'hidden and delete' material unavailable

Substances used in all parts are constantly updated and 'hidden and deleted' substances are no longer available. It is not found in the newly constructed material.

If you enter using existing data, you must modify it if it contains a 'hidden and deleted' material, which automatically it is excluded and not entered.

● Number of basic substances consisting material

Material should be consisted of two or more basic substances.

Single basic substance consisting material does Not allowed to use.

Material should be consisted of two or more basic substances

2.11 4 Heavy Metals and their Application

- Lead (Pb), Cadimum (Cd), Mercury (Hg), Hexavalent Chrome (Cr^{6+}) and their compounds should not be used exceeding defined allowable value. And even small content of them should be input in data sheet There is the threshold and exceptional permission of Heavy metals in HMC /KMC Material

　　Specification 'MS 201-02' (refer to 1.5 of this manual for heavy metal allowable value)

- Exceptionally, in some applications those heavy metals are still tolerated (refer to MS201-02 for exceptional allowance). In this case proper application code should be chosen

　※ Application code per material inquiry : http://mdsystem.com → IMDS Information Pages → Help → FAQ → 'Is there any further explanation as to how to selected an Application ID?' in 'MDS

(Ex)

When prohibited material "Lead" is included, application is created automatically in material information

Arbiary application code is automatically designated in the system. Creator should check and revise it to the proper code with reference to MS201-02 if wrong application code is selected.

2.12 Material Marking

- When materials composing component fall under material classification 5.x, material marking information should be written to component details

※ It should be written after checking whether material is marked in actual component according to HMC /KIA Material Specification 'MS201-01 Marking of materials for automotive parts'

[Check whether material is acutally marked]

Yes : Select when material is marked

No : Select when material is not marked

Not applicable : Parts do not required marking due to specifications of weight, geometric restriction or surface requirements

2.13. Enter Material Recycling/Reuse Information

- Enter information when including recycled materials for material classifications 1, 2, 3, 4, 7.1 and 7.2

- Plastic Material (MDS of Materials in Category 5.x)
Material supplier must enter recycling information directly into MDS.

* Existing MDSs prior to IMDS Release 13.0 are currently in effect, and edit at the parent node when entering recycling information

2.14 Contact Person Assignment

- Contact person of supplier should be assigned before transmitting MDS. Contact person should be is assigned to the personnel who is responsible all business related to IMDS and can communicate with Hyundai·Kia.

- When existing contact person is resigned / transfered, new personnel should be assigned among employees presently involved with IMDS

  ※ Please see 'References' in this guidance for changing contact person.

Assign personnel who can be communication window related to IMDS with Hyundai Motor and Kia
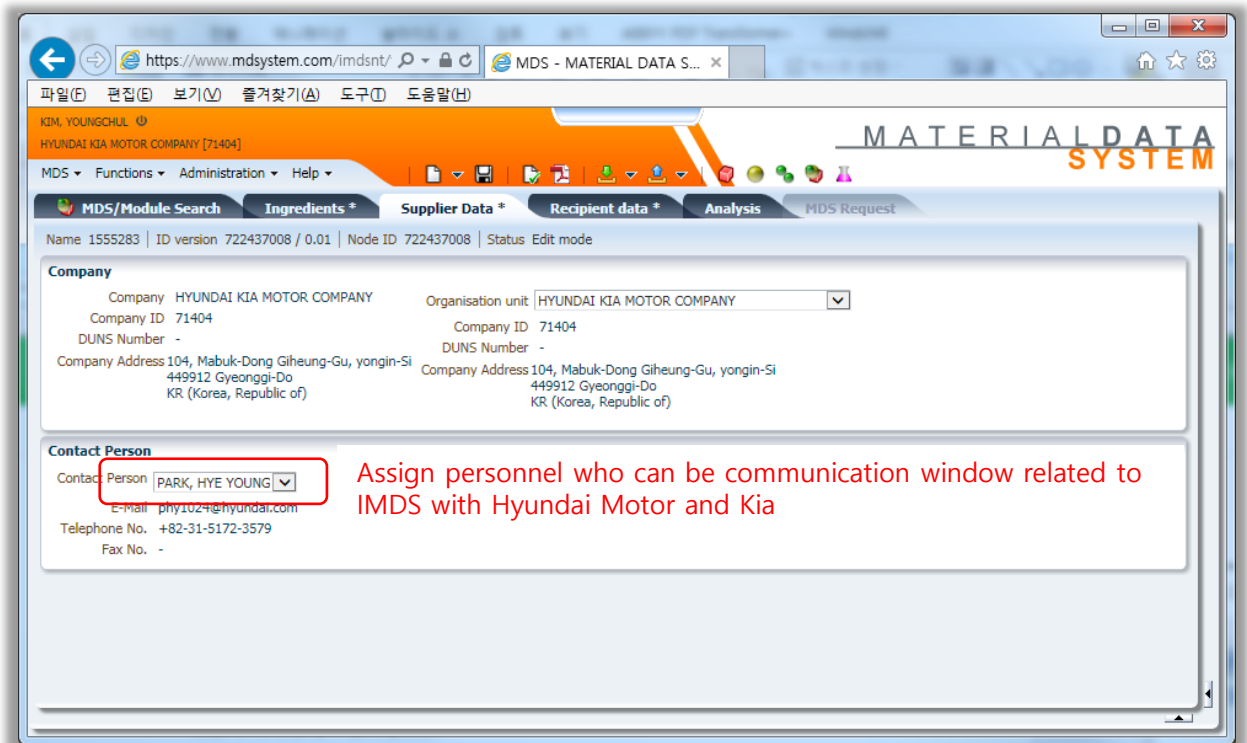
3.1 Sending MDS

3.1.1 Choice of Recipient

- Created MDS should be transmitted to the plant of model to which corresponding part
  are applied and organization unit ID of HMC/KIA plants should be refered at below table.

    Ex) Part applied to passenger car produced in Turkey plant → Send MDS to 71405

  ★ Please be careful that MDS transmitted to wrong recipient will be rejected.

    In addition, it is not valid even though it is sent to wrong recipient and approved

Company	Plant	Recipient [Org. unit ID]
HMC (passenger car)	• All parts produced in Korea plants • All parts supplied to Czech plant (HMMC) • All parts supplied to Turkey plant (HAOS)	HYUNDAI MOTOR COMPANY **[71405]**
	• Local parts supplied to India Plant (HMI) • GKD parts supplied to India Plant (HMI)	HYUNDAI MOTOR INDIA (HMI) **[192766]**
	• Local parts supplied to Alabama Plant (HMMA) • GKD parts supplied to Alabama Plant (HMMA)	HYUNDAI MOTOR ALABAMA (HMMA) **[119671]**
	• Local parts supplied to Brazil Plant (HMB) • GKD parts supplied to Brazil Plant (HMB)	HYUNDAI MOTOR BRAZIL (HMB) **[128948]**
	• Local parts supplied to Russia Plant (HMMR) • GKD parts supplied to Russia Plant(HMMR)	HYUNDAI MOTOR RUSSIA (HMMR) **[128949]**
	• Local parts supplied to Indonesia Plant (HMMI) • GKD parts supplied to Indonesia Plant (HMMI)	HYUNDAI MOTOR MANUFACTURING INDONESIA (HMMI) **[225598]**
KIA (passenger car)	• All parts produced in Korea plants • All parts supplied to Slovakia Plant (KIA)	KIA COPRPORATION **[71406]**
	• Local parts supplied to Georgia Plant (KaGA) • GKD parts supplied to Georgia Plant (KaGA)	Kia GEORGIA (KaGA) **[119673]**
	• Local parts supplied to Mexico Plant (KMX) • GKD parts supplied to Mexico Plant (KMX)	Kia México S.A. de C.V (KMX) **[175429]**
	• Local parts supplied to India Plant (KIN) • GKD parts supplied to India Plant (KIN)	KIA India Private Limited (KIN) **[198329]**
Commercial Vehicle	• All parts applied to commercial vehicles	HMC/KIA COMMERCIAL VEHICLE **[155405]**
Special Vehicle	• All parts supplied to HMC Special Vehicle	HMC SPECIAL VEHICLE **[155406]**
	• All parts supplied to KIA Special Vehicle	KIA SPECIAL VEHICLE **[156364]**
-	• Subsidiary materials applied to vehicles produced in Hyundai · Kia	HMC/KIA SUBSIDIARY MATERIALS **[205676]**
-	• Development parts of the ESIR stage of all parts.	HMC/KIA ESIR **[214102]**

● How to assign recipient
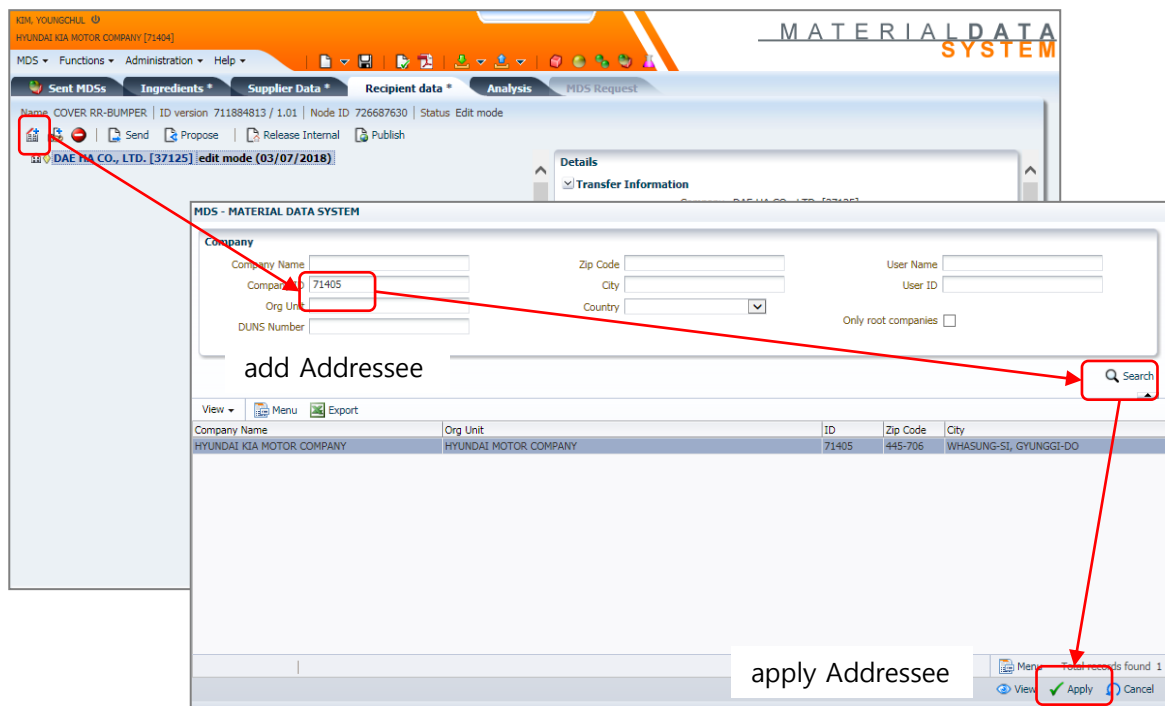
(Continue to next page)

3.1.2 Input Transfer Information

- When send MDS to Hyundai Kia, the following information should be added to your MDS.

. Supplier Code : Vaatz code of your company

. Name : part name in HMC/KIA BOM

. Part/Item No. : part number in HMC/KIA BOM. Please see 2.2 in this guidance.

. Drawing Change Level : The latest EO (Engineering Order) number

3.2 Feedback after Sending MDS

3.2.1 How to modify an rejected MDS

- MDS should be revised and re-transmitted after modifying the reject reason.
- If any further question about reject reason, please contact HMC / KIA contact person
  (refer to 'Summary' of this guidance)

[How to see the rejection reason]

3.2.2 When part changes occur

- When part change occurs in already approved MDS (EO change, material or basic substance change, addition / deletion of sub-part, weight change (over 3% of total weight), color change, etc), MDS should be revised (version-up with same ID) and approved again

References

1. How to re-send accepted MDS with the same ID and version-up to the different recipient

- IMDS Log-in and go to Outbox> choose 'MDS' (①)
- Input search option (②) and in search screen and click 'Search (③)

- Choose target MDS (④) and click right button of mouse
- Choose 'Copy' and 'new version' (⑤)

- Modify MDS if needed (part composition, material , basic substance)

- Go to 'Supplier Data*' (⑥)
- Choose your 'Contact person' (⑦)

- Go to 'Recipient data* (⑧)
- Choose recipient (⑨) and delete it (⑩)
- Recipient is deleted if you click 'Yes'(⑪)
- Add recipient (⑫)
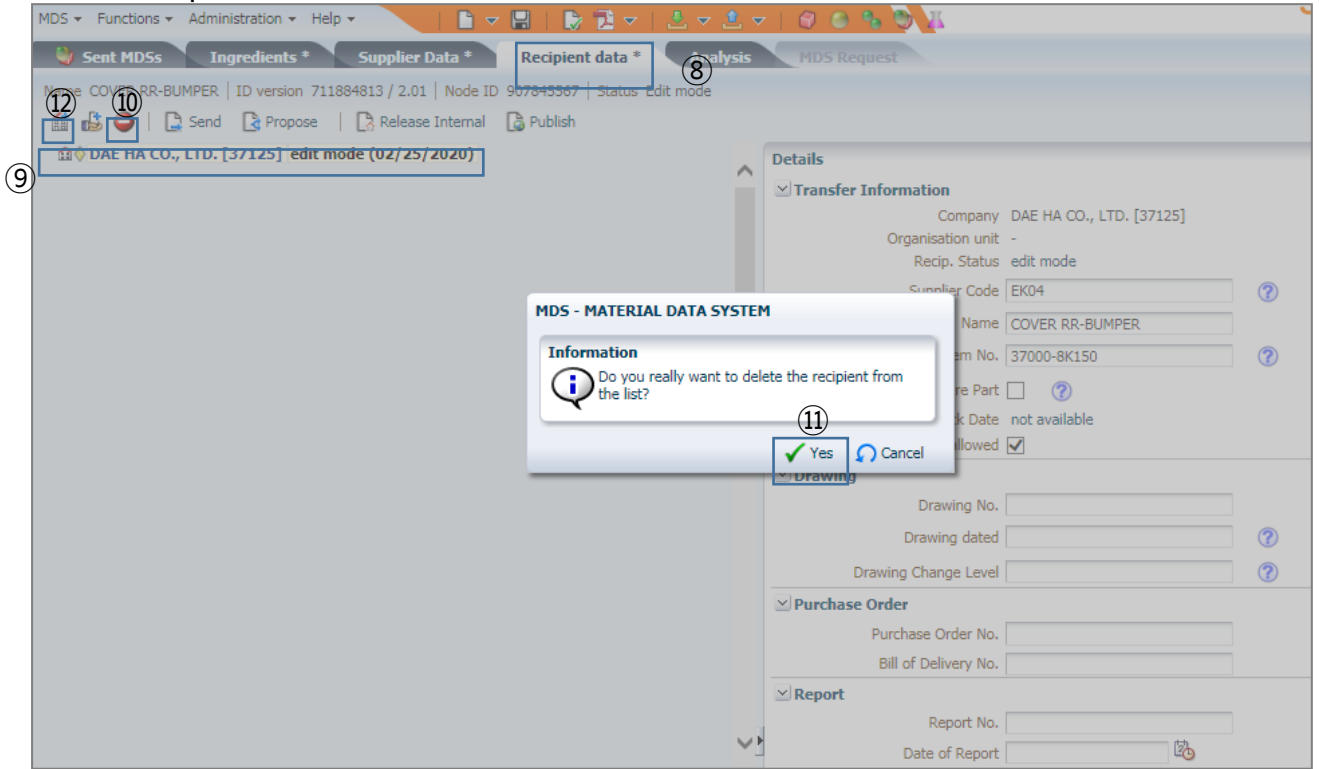
- Enter 'Company ID' or 'Company Name'(⑬)
  (for example company of for HMI is 198329) and search
- Choose recipient (⑭) and click 'apply'

- Enter 'Transfer Information' (⑮)
- Click 'Propose'(⑮-1)
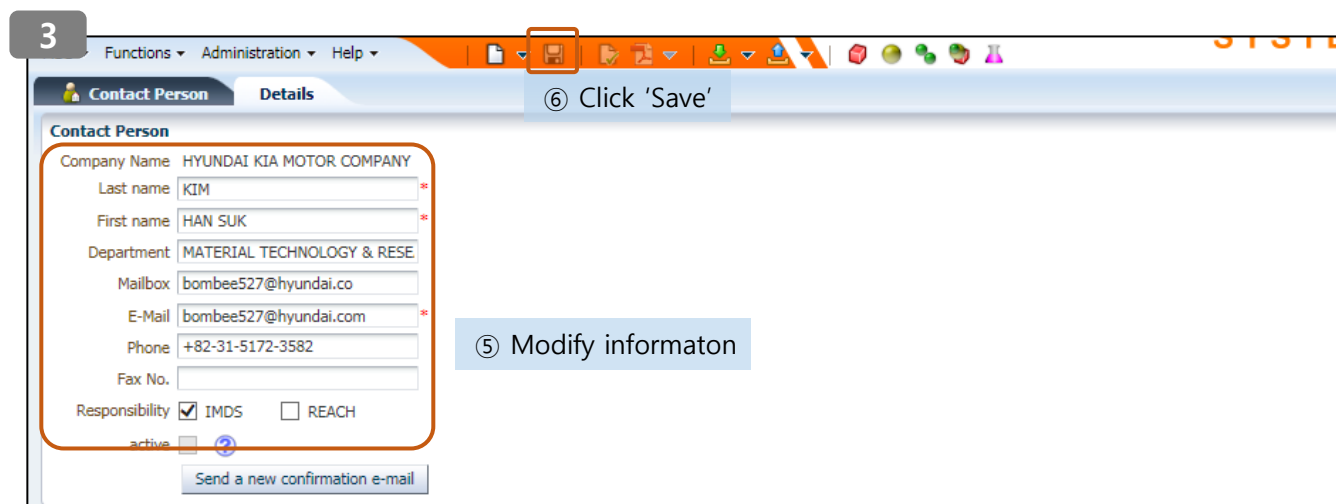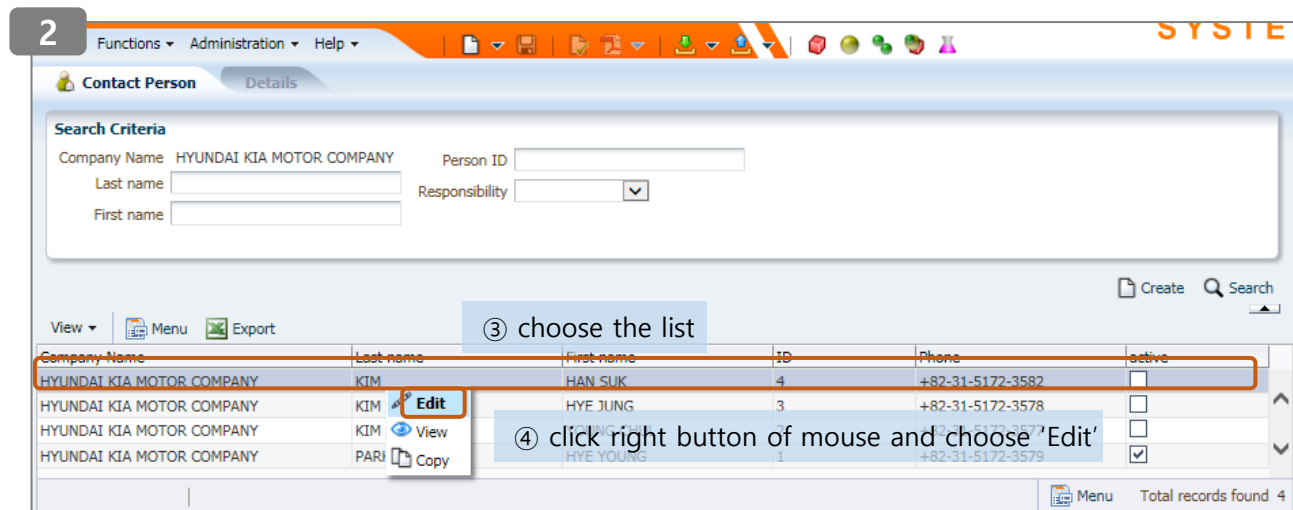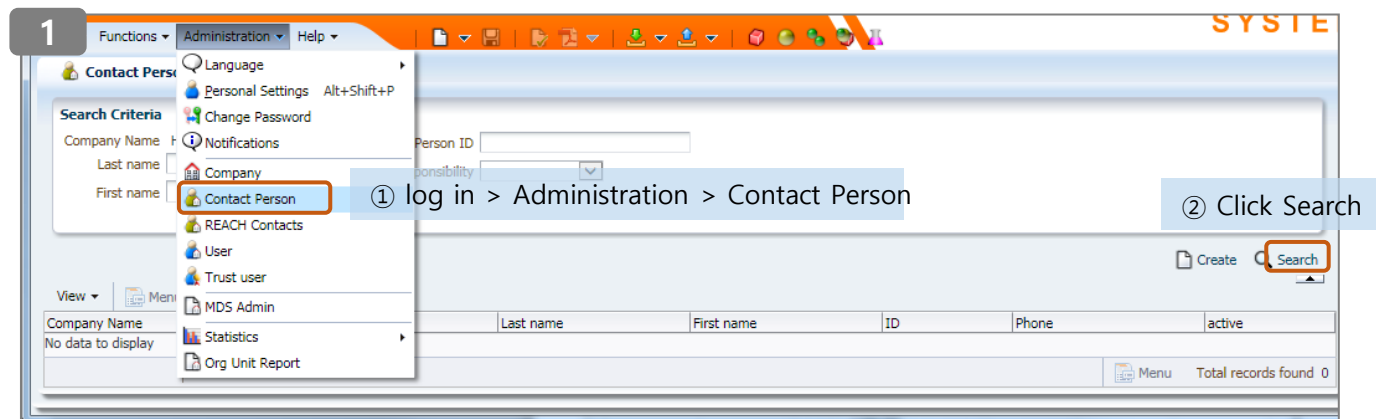
References

2. How to change Contact Person

Case 1. Change information of contact person

[caution] In order to change or create contact person information, Administration
authority is needed

1

① log in > Administration > Contact Person

② Click Search

2

③ choose the list

④ click right button of mouse and choose 'Edit'

3

⑥ Click 'Save'

⑤ Modify informaton

Case 2. Inactive Contact person

1

① log in > Administration > Contact Person

② Click Search

2

③ choose the list

④ click right button of mouse and choose 'Edit'

3

⑥ Click 'Save'

Contact Person

Company Name HYUNDAI KIA MOTOR COMPANY
Last name KIM
First name HAN SUK
Department MATERIAL TECHNOLOGY & RESE
Mailbox bombee527@hyundai.co
E-Mail bombee527@hyundai.com
Phone +82-31-5172-3582
Fax No.
Responsibility ☑ IMDS   ☐ REACH

active ☐   ⑤ Inactive this box

Send a new confirmation e-mail

3. Create new contact person

1

① log in > Administration > Contact Person

② Click 'Create'

2

④ Click 'Save' and the email automatically sent to the below email address.

Contact Person

Company Name HYUNDAI KIA MOTOR COMPANY
Last name *
First name *
Department
Mailbox
E-Mail *
Phone
Fax No.
Responsibility ☑ IMDS ☐ REACH
active ☐ ?

③ Register Contact information.
* is mandatory field

3

MATERIAL DATA SYSTEM

Login

User ID
Password
Language English

Login

- User ID forgotten
- Request new password
- Terms of use

Contact Activation

You are a registered contact person in IMDS for the following company:

Company Name   HYUNDAI KIA MOTOR COMPANY

A contact person is required on every MDS before it may be sent/proposed, so the customer knows who to contact if there are questions. An MDS cannot be sent if it does not have a contact listed.

Click the Activate button to activate your IMDS contact functionality for the named company.
If you do not want to activate your contact functionality in IMDS please click the Cancel button to discard the contact activation.

✓ Activate   ☊ Cancel

⑤Contact person should be access email and click link in email
→
  click 'Activate'