EUROPEAN MASTER DATA GUIDELINE

Detailed explanations to the EMDG,
the guideline which is defining and identifying the basic master data transferred between manufacturers and wholesalers

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2 Introduction

The continuous improvement of the quality of electronic product data is the requirement for any process optimization and constitutes the basis of digitalization in any field of business. Achieving a higher product data quality is the common goal of all parties in the whole supply chain and it also encompasses the involvement of all industry partners. This guideline is intended for the HVAC and plumbing industry at first, with the intention to extend it to other industries in the future. In order to further optimize the electronic data exchange – and the quality of the product master data – in the future, the existing numerous standards and regulations need to be harmonized. Only when both sender and reciver of data has an unambiguous understanding of the contents, the quality of the data can be improved.

The main purpose of the EMDG is to unambiguously define – and uniquely identify - the general master data attributes for products. At a first stage the EMDG is intended to be the common framework to which different systems can be mapped in order to communicate correctly with each other. Later on the EMDG should become the common standard within the different systems, which will utterly improve the data communication.

This document provides a detailed overview of the data contents of the EMDG. It should be noted, that the EMDG is only the guideline and basis for defining the data attributes, but doesn't describe any particular exchange format between software systems. However the EMDG constitutes the common basis for the product data contents for all different exchange formats, so the guideline is applicable for all type of transfer methods from Excel or XML to API etc.

3 Data types and format

The data types used in this guidelines are defined and formatted as following:

STRING : A string represents free text alphanumeric data. This means that a string can contain many different characters, but they are all considered as if they were text, even if the characters are numbers. A string can also contain spaces. A STRING field in this guideline can have a fixed length, in which case it is noted as STRING(13) in the “Format” field, with the fixed number of characters noted between brackets. When the STRING field has a minimum and maximum number of characters it is noted like STRING(1..18)

NUMBER : Numeric value with or without decimals. The decimal separator is the dot. No separator for thousands is permitted. A number field is noted like NUMBER (8.4) where the example indicates a maximum 8 of digits including 4 decimals.

BOOLEAN : The Boolean data type can only represent two values: “true” or “false” (depending on the exchange format “yes” or “no” might be required instead).

VALUE : A value type field also represents alphanumeric data, with the limitation that only values from a predefined (closed) value list are allowed.

DATE : Data specification in format yyyy-mm-dd (year-month-date) for example 2021-02-01

Elements can be single or multiple. Single elements can only occur once (per file or per product line, depending on the field). Multiple elements can occur as many times as relevant. This guideline does not define if data fields are single or multiple, this will be defined by the data exchange format used.

This guideline does not define if data fields should be mandatory or optional in data exchange, since it only intends to give a clear identification and definition of common data fields. If fields are mandatory in the data exchange will be defined by the data exchange format used and/or can be defined in the country specific additions to this guideline.

4 EMDG basic item data

4.1 Supplier and product identification

ID	Name	Format	Definition	Example
MD011001	SUPPLIER_NAME	STRING(1..18)	Company name or legal name of the manufacturer.	Factory 1
MD011002	SUPPLIER_GLOBAL_ID_GLN	STRING(13)	Global identification of the supplier/manufacturer by GLN number (Global Location Number), a unique 13-digit number issued by GS1.	4025416000006
MD011003	SUPPLIER_GLOBAL_ID_DUNS	STRING(9)	Global identification of supplier/manufacturer by DUNS number (Data Universal Numbering System), a unique 9-digit number issued by Dun & Bradstreet.	150483782
MD011004	SUPPLIER_VAT_NO	STRING(1..15)	VAT number of the supplier, starting with a 2 letter (ISO 3166-1 alpha-2) country code and then between 2 and 13 additional characters.	FI1234567
MD011005	SUPPLIER_PRODUCT_NUMBER	STRING(1..32)	Product number issued by the supplier. It is determining for ordering the product; it identifies the product in the supplier catalogue.	JKS300062011
MD011006	SUPPLIER_PRODUCT_GTIN	STRING(14)	Global identification of the product by GTIN number of the supplier. The GTIN (Global Trade Item Number, formerly EAN in Europe) is a unique 8- tot 14 digit number, issued by GS1.	4048797109712
MD011007	COUNTRY_SPECIFIC_PRODUCT_ID	STRING(1..32)	Local identification of the product by country- and sector specific identifier, issued by a country branch organization. Many products are traded in several markets that have a central branch database. Some products could possibly exist in several branch databases in a single market.	7335714 (RSK-nr SE)

MD011008	BRAND_NAME	STRING(1..50)	Name of the brand. Please note that this can be different from the manufacturer name, most manufacturers have multiple brands. (Example: Mattel is the manufacturer, Barbie is the brand)	Volkswagen
MD011009	BRAND_SERIES	STRING(1..50)	Name of the product series the product belongs to. A series brings different products together under a common brand family. Series should be used for commercial marketing purposes. Hence, a product may be a part of a defined product series or range and is directly allocated to it.	Golf
MD011010	BRAND_SERIES_VARIATION	STRING(1..50)	Brand series variation can refer to a difference of a single product type. It can be a subtype of the product within the brand family. Brand series variation should be used for commercial marketing purposes.	GTI

4.2 Additional product categorization

ID	Name	Format	Definition	Example
MD012001	DISCOUNT_GROUP_ID	STRING(1..20)	The discount group assigns the product to a condition group. The contents of the discounts and the coding are defined by the organization. An unambiguous identification number (ID) to be maintained on the product provides a reference to the related discount group.	RG1
MD012002	DISCOUNT_GROUP_DESCRIPTION	STRING(1..100)	Description of the discount group. Only general information is to be transmitted, no percentages	Steel pipes
MD012003	BONUS_GROUP_ID	STRING(1..20)	Bonus groups allocate the products to a possible condition group depending on the purchase quantity (e.g. payment of bonuses depends on specific purchase quantities). The contents of the bonus groups and the coding are defined by the organization. An unambiguous identification number (ID) to be maintained on the product provides a reference to the related bonus group.	BG1
MD012004	BONUS_GROUP_DESCRIPTION	STRING(1..100)	Description of the bonus group. Only general information is to be transmitted, no percentages.	Per 1000

ID	Name	Format	Definition	Example
MD012005	CUSTOMS_COMMODITY_CODE	STRING(8..10)	Commodity code required for customs- (import/export) and Intrastat declarations. The first 6 digits are internationally harmonized (Harmonized System – HS code) by all WTO countries. The last 2 digits are country specific. Use most current version published for custom numbers. The United States uses a 10-digit code to classify products for export, known as a Schedule B number, with the first six digits being the HS number. Exception: Exportable services and software have no commodity code, they get the number “00000001”.	39174002
MD012006	FACTOR_CUSTOMS_COMMODITY_CODE	NUMBER(15.4)	The commodity code required for customs dictates the unit of measure. If the dictated unit of measure is anything other than piece, please use this attribute to calculate the order unit into the unit of measurement that is necessary for the foreign trade statistics. E.g. a 3m ong pipe can be ordered per piece (order unit = PCE). The foreign trade statistics requires the unit meter, therefore the factor is 3. Based on this factor and the order unit also calculation factors for different sales units can be derived.	4

ID	Name	Format	Definition	Example
MD012007	COUNTRY_OF_ORIGIN	VALUE	Country of origin is the country where the product was manufactured, or the last essential processing step was completed. **Identification of the country of origin by country code according to ISO-3166-1 Alpha2**. Country codes must be written in 2 capital letters. For more info and a list of codes allowed see https://www.iso.org/iso-3166-country-codes.html. The list codes have been expanded by QU (Countries and territories not specified (not known by the supplier)) and EU (European Union (if it's produced in multiple countries)). These codes are allowed as well.	DE
MD012008	ETIM_CLASS_CODE	STRING(8)	8-digit identification code of the ETIM class the product is assigned to. ETIM is the ETIM Technical Information Model, a classification standard for technical products. For more information see https://www.etim-international.com/	EC011550
MD012009	UNSPSC_CLASS_CODE	STRING(10)	Identification code of the UNSPSC class the product is assigned to. UNSPSC ist he United Nations Standard Products and Services Code. It is a four-level hierarchy coded as an eight-digit number, with an optional fifth level adding two more digits for Business Function Identifiers (BFIs). For more information see https://www.unspsc.org/	30181501

4.3 Product description

ID	Name	Format	Definition	Example
MD013001	SHORT_TEXT	STRING(1..40)	Very short description of a product e.g. for ERP systems or invoices/delivery notes. The SHORT_TEXT does not have to be unique.	Viega pipe Prestabo 1106
MD013002	NORMAL_TEXT	STRING(1..80)	This is a product description of 80 characters. The NORMAL_TEXT must be unique.	Viega pipe Prestabo 1106 6170.11 in 725mmxDN40/50 chromium-plated
MD013003	LONG_TEXT	STRING(1..256)	The longer text is a product-identifying, unambiguous description of a product as continuous text. e.g.: This text type could be used in commercial documents and incoming-goods processes. The LONG_TEXT must be unique.	Viega MultiplexTrio-drain/overflow VisignMT9 5cm Model 6170.11 DN: 40/50 Bowden cable length: 725 L: 130
MD013004	MARKETING_TEXT	STRING(1..10000)	The marketing text is a user-oriented description of a product as continuous text. It is not intended to be exhaustive and it is for commercial purposes.	-
MD013005	APPLICATION_PURPOSE	STRING(1..10000)	This attribute explains on a deeper level how you can or cannot use this product from technical perspective.	Note: Not suitable for heating and cooling systems
MD013006	PRODUCT_PAGE_URL	STRING(1..512)	A deeplink (URL) redirects to a relevant webpage of the supplier or manufacturer, where further information on the product may be found.	www.company.com/productnumber

4.4 Product validity and pricing

ID	Name	Format	Definition	Example
MD014001	PRODUCT_VALIDITY_DATE	DATE	Date from when the product should become active. This is useful for central databases, where a supplier might submit the product in advance. If the product is not tradable at the time of submission, this date indicates when the product is available for trade	2020-01-01
MD014002	PRODUCT_EXPIRY_DATE	DATE	Indication of the expected expiry date of the product.	2020-12-31
MD014003	SUCCESSOR_SUPPLIER_PRODUCT_NUMBER	STRING(1..35)	Product number issued by the supplier of the successor model, that in terms of functionality and technical specification replaces the product.	JKS300062012
MD014004	SUCCESSOR_SUPPLIER_PRODUCT_GTIN	STRING(14)	Global identification of the product successor model by GTIN number of the supplier. The GTIN (Global Trade Item Number, formerly EAN in Europe) is a unique 8-tot 14 digit number, issued by GS1.	4048797109712
MD014005	STANDARD_ORDER_LEAD_TIME	NUMBER(8.0)	The standard order lead time (delivery time) is the non-binding period of time from customer order received to customer order delivered. This does not apply to special orders and forward orders. Stated in calendar days. Wholesalers use the standard order lead time as information for stock management.	21
MD014006	PRICE_QUANTITY	NUMBER(9.4)	A multiple of the **order_unit (MD015003)** indicating to which quantity all the specified prices refer to.	1
MD014007	PRICE_ON_REQUEST	BOOLEAN	Indication expressing that the price must be requested from the supplier. When product has no fixed price, value = true.	true

ID	Name	Format	Definition	Example
MD014008	GROSS_LIST_PRICE	NUMBER(15.4)	The gross list price is the general price given by the supplier excluding sales tax.	11,26
MD014009	RECOMMENDED_RETAIL_PRICE	NUMBER(15.4)	The non-binding recommended "retail" price or "suggested" price including sales tax.	15,27
MD014010	CURRENCY_CODE	VALUE	Code expressing the currency of the prices. **Use the three-letter ISO 4217 currency code list**. For more information see https://www.iso.org/iso-4217-currency-codes.html	EUR

4.5 Product dimensions and order information

ID	Name	Format	Definition	Example
MD015001	UNIT_OF_USE	VALUE	Information about the content of a trade item, displayed in recognizable or relevant units for the end user. The unit that the user uses, consumes, or installs. **Units from value list 5.1 can be used**.	PCE
MD015002	UNIT_OF_USE_CONVERSION_FACTOR	NUMBER(16.4)	Conversion factor indicating how many **units_of_use (MD015001)** one **order_unit (MD015003)** contains.	1
MD015003	ORDER_UNIT	VALUE	Unit in which the product can be ordered; it is only possible to order multiples of the order_unit. **Units from value list 5.1 can be used**.	PCE
MD015004	PRODUCT_NET_LENGTH	NUMBER(16.4)	Net length/depth of the product (unpacked). Unit of measurement to be defined by data exchange format.	200 mm
MD015005	PRODUCT_NET _WIDTH	NUMBER(16.4)	Net width of the product (unpacked). Unit of measurement to be defined by data exchange format.	100 mm
MD015006	PRODUCT_NET _HEIGHT	NUMBER(16.4)	Net height of the product (unpacked). Unit of measurement to be defined by data exchange format.	65 mm
MD015007	PRODUCT_NET_DIAMETER	NUMBER(16.4)	Net diameter of the product (unpacked). Unit of measurement to be defined by data exchange format.	245 mm
MD015008	PRODUCT_NET_WEIGHT	NUMBER(16.4)	Net weight of the product (unpacked). Unit of measurement to be defined by data exchange format.	0.73 kg
MD015009	MINIMUM_ORDER_QUANTITY	NUMBER(16.4)	Minimum order quantity with respect to the **order_unit (MD015003)**. Minimum order quantity: always greater than 0, e.g. quantity/number of pieces (5) or length specification (2.5).	10
MD015010	ORDER_STEP_SIZE	NUMBER(16.4)	Number that indicates the quantity steps in which the product can be ordered.	5

ID	Name	Format	Definition	Example
MD015011	SHELF_LIFE_PERIOD	NUMBER(2.0)	Shelf life is the period of time, from the date of manufacture, that a product is expected to remain within its approved product specification while stored under defined conditions. Indication of the period in months 1-99; 99 means unlimited durability. Useful for certain products, like for example self-adhesive pipe insulation.	99

4.6 PackingUnits

ID	Name	Format	Definition	Example
MD016001	PACKING_TYPE_CODE	VALUE	Code defining the packing type. **Values from value list 5.3 can be used**.	CT
MD016002	PACKING_QUANTITY	NUMBER(16.4)	Number of **ORDER_UNIT (MD015003)** contained in the packing type.	2
MD016003	PACKING_GTIN	STRING(14)	The GTIN for the packing type. The GTIN has to be unique for every packing type. The GTIN (Global Trade Item Number, formerly EAN in Europe) is a unique 8- tot 14 digit number, issued by GS1.	4048797109712
MD016004	PACKING_TYPE_LENGTH	NUMBER(16.4)	Length/Depth of the entire packing type. Unit of measurement to be defined by data exchange format. For round packing types (like a cable reel), give the square dimensions of the space taken.	201 mm
MD016005	PACKING_TYPE_WIDTH	NUMBER(16.4)	Width of the entire packing type. Unit of measurement to be defined by data exchange format. For round packing types (like a cable reel), give the square dimensions of the space taken.	108 mm
MD016006	PACKING_TYPE_HEIGHT	NUMBER(16.4)	Height of the entire packing type. Unit of measurement to be defined by data exchange format. For round packing types (like a cable reel), give the square dimensions of the space taken.	65 mm
MD016007	PACKING_TYPE_WEIGHT	NUMBER(16.4)	Weight of the entire packing type. Unit of measurement to be defined by data exchange format.	0,73 kg
MD016008	NUMBER_OF_PACKING_PARTS	NUMBER(8.0)	Number of packing parts in which a product will be delivered, e.g. a shower screen is delivered in 2 boxes (=2 packages).	2

4.7 Other product information

ID	Name	Format	Definition	Example
MD017001	ELECTRIC_COMPONENT_CONTAINED	BOOLEAN	Product contains electrical / electronic components.	true
MD017002	BATTERY_CONTAINED	BOOLEAN	Product contains an included battery.	true
MD017003	WEEE_CATEGORY	VALUE	Specification of the WEEE category (electronic waste and electronic equipment). **Values from value list 5.4 can be used.**	1
MD017004	ROHS_INDICATOR	VALUE	Code expressing if RoHS is applicable. **Allowed values: 'true' / 'false' / 'exempt'**. The Restriction of Hazardous Substances Directive, short for Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, restricts (with exceptions) the use of ten hazardous materials in the manufacture of various types of electronic and electrical equipment. If RoHS is applicable, please enclose the document "Declaration of conformity" (**MD18006**).	true
MD017005	REACH_INDICATOR	VALUE	Code expressing if a product is subject to the REACH Regulation. **Allowed values: 'true' / 'false' / 'no data'**. REACH stands for **R**egistration, **E**valuation, **A**uthorisation and restriction of **Ch**emicals. A product is subject tot REACH, if it contains a "SVHC = substance of very high concern" in a concentration of more than 0.1 mass percentage. If REACH is applicable but data are not (yet) available, use "no data".	false
MD017006	REACH_DATE	DATE	Date, on which the product was checked by the manufacturer for REACH.	2020-01-01
MD017007	CE_MARKING	BOOLEAN	Code expressing if the product has a CE mark. If the CE legislation is not applicable use value "false".	true

MD017008	SDS_INDICATOR	BOOLEAN	Indicator expressing if the product is classified as hazardous substance or dangerous good. If the SDS_indicator is “true” a safety data sheet must be delivered via attachments (**MD18007**).	false
MD017009	UN_NUMBER	VALUE	UN hazardous materials identification number. UN numbers or UN IDs are four-digit numbers that identify dangerous goods, hazardous substances and products (such as explosives, flammable liquids, toxic substances, etc.) in the framework of international transport. They are assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods. **For allowed values see for example** https://en.wikipedia.org/wiki/Lists_of_UN_numbers	2806
MD017010	HAZARD_CLASS	VALUE	The transport hazard classes that have been assigned to the substances on the basis of the main risk they pose in accordance with the ADR or UN model regulations must be specified. (Section 14.1 - 14.4 in the SDS). **Values from value list 5.5 can be used.**	4.1
MD017011	ADR_CATEGORY	VALUE	Category according tot the European Agreement concerning the International Carriage of Dangerous Goods by Road. Important information regarding the transport of the product. **Values from value list 5.2 can be used.**	4

4.8 Attachments

ID	Name	Format	Definition	Example
MD018001	ATTACHMENT_PRODUCT_IMAGE	STRING(1..512)	File source path or URL of product image.	www.xyz.eu
MD018002	ATTACHMENT_DOP	STRING(1..512)	File source path or URL of DoP document (Declaration of Performance / CE)	www.xyz.eu
MD018003	ATTACHMENT_INSTALLATION_MANUAL	STRING(1..512)	File source path or URL of installation manual.	www.xyz.eu
MD018004	ATTACHMENT_OPERATION_MANUAL	STRING(1..512)	File source path or URL of operation/service manual.	www.xyz.eu
MD018005	ATTACHMENT_3D_FILE	STRING(1..512)	File source path or URL of product 3d image file.	www.xyz.eu
MD018006	ATTACHMENT_ROHS_DECLARATION	STRING(1..512)	File source path or URL of RoHS declaration of conformity	www.xyz.eu
MD018007	ATTACHMENT_SAFETY_DATA_SHEET	STRING(1..512)	File source path or URL of Safety Data Sheet (SDS)	www.xyz.eu
MD018008	ATTACHMENT_PRODUCT_DATA_SHEET	STRING(1..512)	File source path or URL of product data sheet	www.xyz.eu

5 Value Lists

5.1 Order units/use units

Value	Description
BE	Bundle
BG	Bag
BO	Bottle
BX	Box
CI	Canister
CL	Coil
CX	Tin, cylindrical
KGM	Kilogram
MTK	Square metre
MTR	Metre
MTQ	Cubic metre
NMP	Pack
NPL	Parcel
NPR	Pairs
NRL	Roll
PCE	Piece
SET	Set

5.2 ADR category

Value	Description
0	Maximum total quantity (in kg or litres) per transport unit: 0
1	Maximum total quantity (in kg or litres) per transport unit: 20
2	Maximum total quantity (in kg or litres) per transport unit: 333
3	Maximum total quantity (in kg or litres) per transport unit: 1000
4	Maximum total quantity (in kg or litres) per transport unit: unlimited

5.3 Packing type

Value	Description
BE	Bundle
BG	Bag
BO	Bottle
BX	Box
C62	One (unit)
CA	Can
CL	Coil
CQ	Cartridge
CR	Crate
CS	Case
CT	Carton
CY	Cylinder
D99	Sleeve
DR	Drum
EV	Envelope
KG	Keg
PA	Packet
PF	Pallet (lift)

Value	Description
PK	Pack
PL	Pail
PR	Pair
PU	Tray / tray opack
RG	Ring
RL	Reel
RO	Roll
SA	Sack
SET	Set
TN	Tin
TU	Tube

5.4 WEEE2

Value	Description
1	Temperature exchange equipment
2	Screens and monitors
3	Lamps
4	Large equipment > 50 cm
5	Small equipment < 50 cm
6	Small IT/tele equipment < 50 cm
7	Photovoltaic panels

5.5 Transport hazard classes

Value	Description
1	Explosives
2.1	Flammable gases
2.2	Non-toxic and non-flammable gases
2.3	Poison gases
3	Flammable liquids
4.1	Flammable solids
4.2	Spontaneously combustibles
4.3	Dangerous when wet
5.1	Oxidizers
5.2	Organic peroxides
6.1	Poison
6.2	Infectious substances
7	Radioactive
8	Corrosive
9	Miscellaneous dangerous substances

6 Country specific data

Individual countries can define country specific master data fields, relevant only for data transfer in their local market. These will be identified by a country specific EMDG ID. Also countries can define country specific guidelines or explanations regarding common (international) EMDG fields.

For these local additions, separate additional documents will be published per country, under full responsibility of the countries themselves. If a manufacturer wants to deliver data to a specific country, he can find the additional requirements in the relevant country specific document. This is intended to add more flexibility to the general guideline to adapt it to local market requirements, without causing disturbance or an explosion of local elements in the common international guideline.