

VOLVO GROUP

Material and substances composition reporting instructions

Specific requirements and guidelines

Version 3.0

October 2015

Contents

	Introd	luction	4
1.	RE	FERENCES	4
	1.1.1.	VOLVO GROUP standard	4
	1.1.2.	VOLVO Standards on related processes	4
	1.1.3.	VOLVO Standards on restricted/reportable substances	5
2.	Leg	islation	5
	2.1.1.	REACH	5
3.	TEI	RMINOLOGY	6
	3.1.1.	Acronyms dictionary	6
	3.1.2.	Definition	6
4.	RE	QUEST TO SUPPLIERS	6
	4.1.	Material & Substances composition Reporting	6
	4.1.1.	Use of Information	7
	4.1.2.	Supplier Internal Communication Requirements	7
		Cascading of reporting to sub-tier Suppliers	
		Reporting Language	
5.	PRI	E-REQUISITES	7
	5.1.1.	Registration in the supplier portal	7
	5.1.2.	Person(s) in charge of substances reporting	7
	5.1.3.	Registration in IMDS	7
6.	MA	TERIAL & SUBSTANCE COMPOSITION REPORTING PROCESS	8
	6.1.1.	MDS process	8
7.	PRO	OCESS TIMING	10
	7.1.1.	New part	10
	7.1.2.	Modified part	
	7.1.2	J 11	
	7.1.3.	Carry over part	11
8.	REI	PORTING IN THE SUPPLIER PORTAL MANAGEMENT	11
•	8.1.1.	Supplier portal interface	11
9.	REI	PORTING IN IMDS MANAGEMENT	12
		IMDS- International Material Data System	
	9.1.2 9.1.3		
	9.1.4	1	

9.1.5.	Component/Sub component requirements	14
9.1.6.	Component/Sub component requirements Component specific guidelines	14
9.1.7.	Polymeric marking	14
9.1.8.	Semi component requirements	14
9.1.9.	Material requirements	
	FUNCTIONS: HOW TO PERFORM MAIN ACTIVITIES	
10.1.1.	E-mail subscription in IMDS	16
10.1.2. Fin	nd / Read MDS request & Assign MDS	16
10.1.2.1.	Find / read MDS request	16
	Assign a MDS to a MDS request	
10.1.4. ML	OS Sending	18
10.1.4.1.	Volvo Group ID in IMDS	18
10.1.5. ML	OS Update	18
11. CONTA	CTS -VOLVO	19

Introduction

The Volvo Group core values, quality, safety and environmental care, are a commitment to meet the expectations of customers, business partners and society. Suppliers of components for production, equipment, services and consumption goods play a vital part in the development and production of Volvo products. A true holistic approach means that the Volvo commitment on environmental care must be reflected in the supplier network.

This manual is intended to explain to Volvo's suppliers what Volvo's requirements for reporting parts material contents are. It comes in complement to the Volvo group standard STD 100-0006.

The requirements set out in this manual shall be fulfilled for every new and modified part delivered to Volvo Truck Divisions: Volvo Trucks, Renault Trucks, UD Trucks and Mack Trucks.

Volvo Business Areas: Volvo Buses, Volvo Penta and Volvo Construction Equipment.

Volvo strongly recommends the Tier 1 suppliers to pass the information to Tier 2 suppliers.

The provisions contained herein do not limit in any way the Supplier's liability regarding notably the respect of all legal and regulatory provisions.

6. REFERENCES

1.1.1. VOLVO GROUP standard

The supplier portal is master in term of up to date version of the VOLVO requirements. These requirements can be accessed from the supplier portal home page: http://www.volvo.com/suppliers:



1.1.2. VOLVO Standards on related processes

STD 100-0006: Reporting of substances and material composition to IMDS

<u>STD 103-0002</u>: Generic identification and marking of plastics and elastomer components Marking of Material type

STD 103-0010: Marking of aluminum parts

1.1.3. VOLVO Standards on restricted/reportable substances

Volvo forbidden/restricted/reportable substances are documented in the Volvo standards:

■ <u>STD 100-0005</u>: Chemical substances classified as "Prohibited" ("P") in the Global Automotive Declarable substance list (GADSL-P) are prohibited in products within the Volvo Group.: This list combines all different OEM and Chemical industry requirements regarding substances into one list. More detailed information on the GADSL-P list on the dedicated website: gadsl.org

They are updated yearly to reflect changes in substance regulations worldwide and applicable on all parts bought by the Volvo Group.

2. LEGISLATION

2.1.1. REACH

REACH is the European Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals.

Please keep Volvo informed about presence of <u>REACH Candidate listed substances</u> in parts you presently and also in the future deliver to Volvo Group within and outside EU/EEA.

Please check after each update from ECHA (twice a year) if new substances are concerned. If demanded inform Volvo by IMDS (STD 100-0006).

3. TERMINOLOGY

3.1.1. Acronyms dictionary

BOM Bill of Material

EC European Community
ELV End of Life Vehicle

EU Europe

FAQ Frequently Asked Questions

FBOM Flat Bill of Material FS Functional specification

GADSL Global Automotive Declarable Substance List

IDM Identity Manager

IMDS International Material Data System
PPAP Production Part Approval Process
PPCN Product / Process Notification Change

MDS Material Data Sheet

OEM Original Equipment Manufacturer

PVR Part Version Report

REACH Registration, Evaluation, Authorization and Restriction of Chemicals

RFI Request for Information
RFQ Request for Quotation
SQE Supplier Quality Engineer
TR Technical requirement

3.1.2. Definition

- Definition of a Part: A part is any item:
 - Supplied directly to Volvo Group by a Tier 1 supplier
 - With an assigned Volvo Group part number & version
- ⊃ <u>Definition of a stage</u>: The Design Stages are defined levels in the part life cycle and are intended to support a gradual maturity. Each level allows some specific use of the parts and also has established rules to be satisfied by the necessary activities.

There are four design stages defined as follows:

- Design stage Stage A
- Verification stage Stage B
- Tooling stage Stage C
- Production stage Stage P

4. REQUEST TO SUPPLIERS

4.1. Material & Substances composition Reporting

For each new & modified part, the supplier shall submit an MDS consisting of a declaration of all materials included and their weight. (STD 100-0006). Compliance with this reporting requirement is mandatory and is part of your signed contract with Volvo

4.1.1. Use of Information

Each Tier 1 supplier sending substances information to Volvo group acknowledges and agrees that such information can be used by Volvo only for purposes related to the current legislations and regulations and Volvo's standard terms and conditions.

4.1.2. Supplier Internal Communication Requirements

This information package shall be communicated to the appropriate department managers in your organization. Such areas could be product development, purchasing, manufacturing, quality and environment.

4.1.3. Cascading of reporting to sub-tier Suppliers

Tier 1 supplier remains sole accountable of the fulfillment of those requirements by any of its Tier N suppliers Therefore it is the responsibility of Tier 1 supplier:

- To cascade this information and all requirements to all their Tier N suppliers.
- To check that their Tier N suppliers comply with the same requirements.
- To make sure that submission of the requested material content is carried out.

The Tier 1 supplier can decide what method to use to collect the part/material/substance data from their Tier N suppliers.

4.1.4. Reporting Language

Volvo Group requires that English be the unique language used for fulfilling Material & Substances composition reporting in IMDS. It means that all the fields, including remarks shall be written in English. No other language is allowed.

5. PRE-REQUISITES

5.1.1. Registration in the supplier portal

If a Tier 1 supplier is not yet registered in the Volvo Supplier Portal, the supplier has to contact the responsible Volvo Group Buyer for all necessary details needed.

5.1.2. Person(s) in charge of substances reporting

If already registered in the Volvo Supplier Portal, it is important that the Tier 1 supplier communicate to the Volvo Group, the e-mail address of the person in charge of Substances reporting in the company. This action will enable the Tier 1 supplier to have automatically sent out the MDS request from Volvo Group.

This registration can be done directly on the supplier portal with the application Identity Minder (IDM). IDM has been designed that the supplier is self-sufficient for managing users and access to Volvo Group application within the supplier company. This will then be the "Super User" responsibility to add new user or allow new access.

5.1.3. Registration in IMDS

If the Tier 1 supplier is not yet an IMDS user, a registration in the IMDS system must be done. This can be done directly online.

Below are the links to IMDS system and its user-manual to register in IMDS.

- IMDS system
- Registration USER manual

6. MATERIAL & SUBSTANCE COMPOSITION REPORTING PROCESS

6.1.1. MDS process



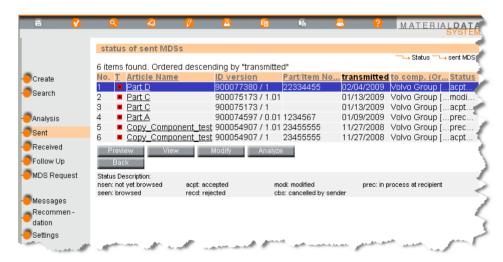
When a MDS is required, the Tier 1 supplier has to log in IMDS to assign a MDS to the request.

To help the Tier 1 supplier, the Part/Item No and Supplier code fields are automatically filled in the recipient chapter of the assigned MDS (New or reassigned MDS). This automatic action will only work if the Tier 1 supplier answers a MDS request.

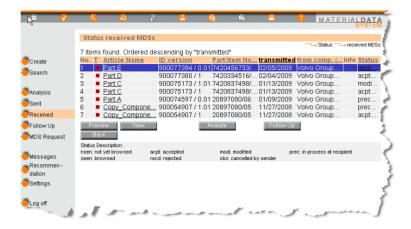
If the supplier wants to send an MDS without being requested it is important that correct information is filled in otherwise Volvo's systems might not be able to recognize the submitted MDS. For more information on automatic filling of MDS fields and on how to assign a MDS to a request, please see paragraph 7.3.2 Find / Read MDS request & Assign MDS.

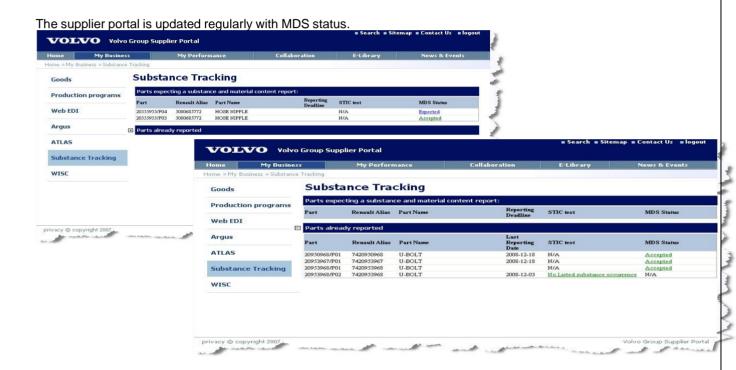
Once the MDS documented, assigned to the request and sent to Volvo, there are 3 possibilities:

- **The MDS is Accepted**: It means that the MDS matches the current Volvo's requirement. If any changes in the composition of the part are made after the MDS has been accepted and this change will be affecting the MDS specification, a new updated MDS must be submitted before any part shall be delivered to Volvo. Using the PPCN process, see. 6.6.3.1.



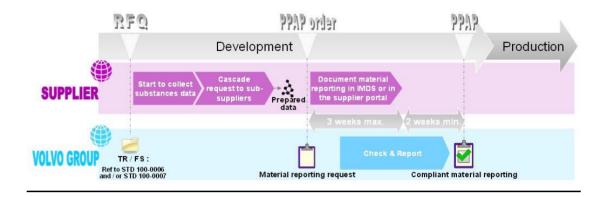
- The MDS is accepted with Follow up: Follow the instruction given in the comments field in the MDS response from the MDS checker.
- **The MDS is Rejected**: Follow the instruction given in the comments field in the MDS response from the MDS checker.





6. PROCESS TIMING

6.1.2. New part



The material reporting fulfillment by submitting MDS has to be done latest 4 weeks before the planned PPAP approval date. This highlights the need to start collecting substances data as soon as possible (latest during C-stage) to be able to answer in time to the MDS request. Material reporting checking and validation by Volvo will be done within 2 weeks after reception.

6.1.3. Modified part

6.1.3.1 Modification initiated by the supplier

The Tier 1 Supplier shall inform Volvo of any modification of the part content (might come from a Tier N Supplier).

To contact Volvo Group concerning a proposed modification to a part, the **Product Process Change Notification (PPCN)** form can be downloaded from supplier portal. The form has to be filled and sent to the buyer to start a Volvo internal investigation. When a modification is made, initiated by either Supplier or Volvo, the supplier shall submit a new MDS latest within 3 weeks after the modification or 4 weeks before new PPAP date.

The MDS shall include a new MDS id, i.e. create a new MDS, not just a new version of the current accepted MDS, is not sufficient enough.

6.1.4. Carry over part

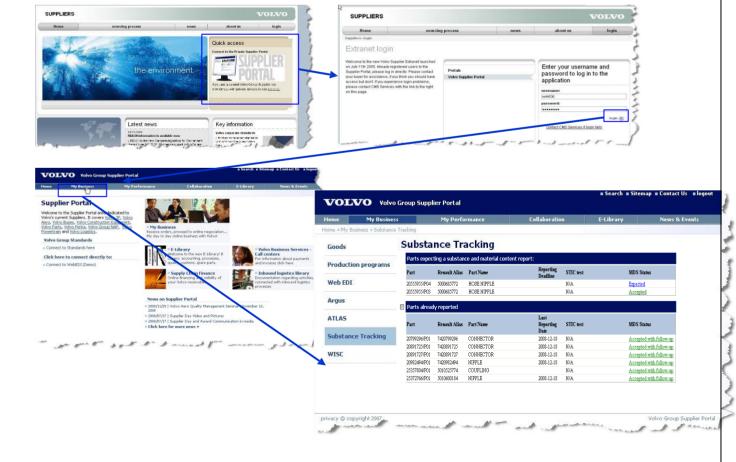
Material & Substances composition reporting is required for carry over parts. This might evolve linked to incoming regulations.

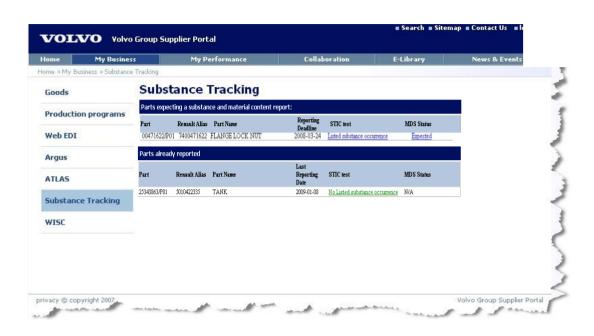
7. REPORTING IN THE SUPPLIER PORTAL MANAGEMENT

7.1.1. Supplier portal interface

The supplier portal is to be used:

- To check the type of material reporting requested





8. REPORTING IN IMDS MANAGEMENT

8.1.1. IMDS- International Material Data System

8.1.2. Access to IMDS, Registration, Password, training, user information

On the public pages of www.mdsystem.com you can find general information such as system requirements, training courses calendar, e-learning, online registration and automotive news etc. Going to the "Public IMDS Pages", you will then get information on:

- The system requirements and the online registration ("System")
- The training possibilities ("Training")
- E-mail addresses and phone numbers to contact
- EDS in case of questions about IMDS ("Contact")
- Frequently asked questions (FAQ)

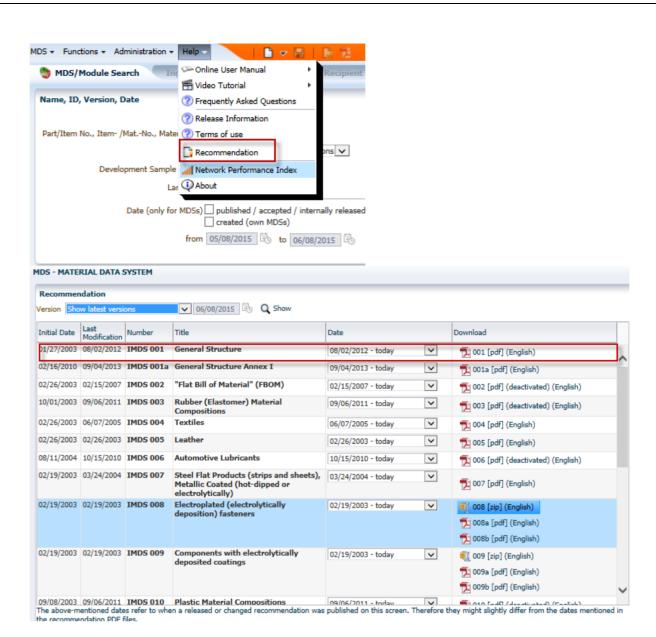
The IMDS help desks are also available to answer questions concerning the functionality of the IMDS.

8.1.3. MDS content Requirements

The rules to follow for creating data are described in the IMDS Recommendations (available on the IMDS Website)

The main Volvo specific recommendation is that the hierarchy number for Materials should be limited to one; Numbers are listed in the table hereafter.

Recommendation needs to be mandatorily followed on material declaration.



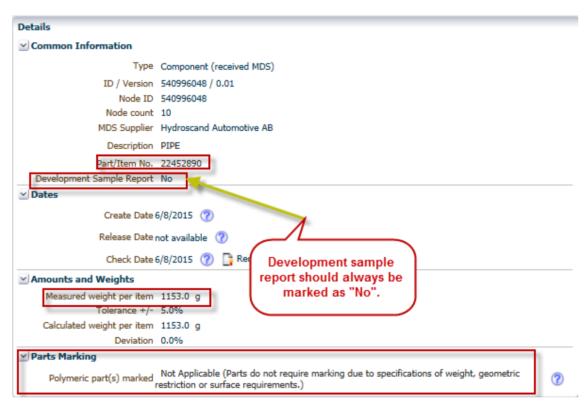
8.1.4. Structure

- The structure of an MDS must follow the IMDS Recommendation 001.
- The structure tree of the MDS should represent the actual component or assembly.
- It is preferable that materials not be attached to materials as this complicates reporting in our in- house system.
- The top element of an MDS shall always be a component. The material and semi-component MDS shall be avoided.

8.1.5. Component/Sub component requirements

Refer to IMDS Recommendation 001 §3.2

8.1.6. Component specific guidelines



8.1.7. Polymeric marking

The **polymeric marking is mandatory**. If polymeric marking information is not equal to Yes for a part that shall be polymeric marked regarding legal requirements, the MDS will be rejected.

8.1.8. Semi component requirements

cf. IMDS Recommendation 001 §3.

8.1.9. Material requirements

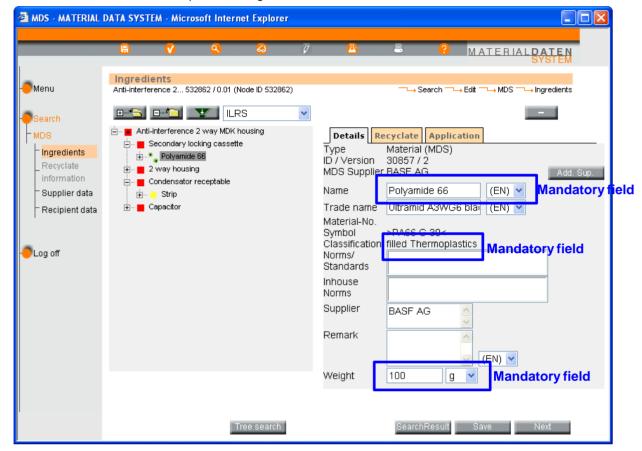
8.1.9.1 General

cf. IMDS Recommendation 001 §3.4

For each part a full declaration (100%) of all materials should be submitted in IMDS. If unspecified material (so called "jokers" or "wildcards") are used for material declaration in an MDS, they must not exceed 10% of the homogenous material and must not be used to "hide" GADSL substances list or REACH candidate substances list (Check these lists twice a year, when updated with new substance).

8.1.9.2 Material specific guidelines

Reminder: All data should be reported in English



8.1.9.3 Recyclate information

Mandatory to fill in.

8.1.9.4 Substance requirements

cf. IMDS Recommendation 001 §3.5

8.1.9.5 Reported substances

The substances to be reported in IMDS are:

- All GADSL prohibited and declarable substances.
- All the substances lists (ex. REACH Candidate list) requested in the PVR / TR

Other substances that are not in these lists should be also reported.

If unspecified material (so called "jokers" or "wildcards") are used for material declaration in an MDS, they must not exceed 10% of the homogenous material and must not be used to "hide" GADSL substances or REACH candidate substances (Check these lists twice a year, when updated with new substances).

8.1.9.6 Applications

VOLVO GROUP – Substances and material reporting detailed instructions/ Version 3.0

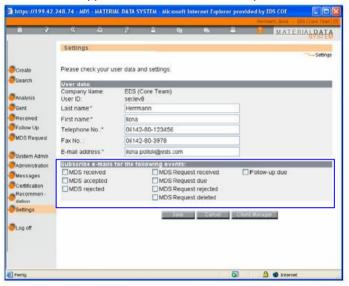
The **application information is mandatory**. If application information is not correctly documented in IMDS the MDS will be rejected. Supplier Tier1 shall document each "application" case to reflect the real use of the substance within a material for a component.

9. IMDS FUNCTIONS: HOW TO PERFORM MAIN ACTIVITIES

This paragraph intends to explain to Volvo's suppliers what Volvo's requirements for reporting in IMDS are. This is not a complete training material for IMDS. To get such information, please see paragraph Access to IMDS, Registration, Password, training, user information.

9.1.1. E-mail subscription in IMDS

In the "Settings" menu, the Tier 1 supplier can tick the different options he wants in term of E-mail subscription.



9.1.2. Find / Read MDS request & Assign MDS

Volvo uses the function MDS request in IMDS. It guarantees that the supplier is connecting his MDS with the right Part / item No and supplier code. Actually, Volvo strongly recommends that the supplier answers the request, that is to say assign the MDS to the request before sending the MDS back to Volvo. This action ensures that the Part/Item No and Supplier code fields are automatically filled in the recipient chapter of your assigned MDS (New or reassigned MDS).

If the supplier sends the MDS without answering the request, the risk is that he doesn't fill the right information in the recipient chapter of the MDS. If this occurs, the MDS won't be recognized in Volvo's systems and thus the MDS might be rejected.

To sum up, the MDS has to be assigned to the request before to be seen

9.1.2.1 Find / read MDS request

In the "MDS request" Menu, the search can be performed using different criteria.

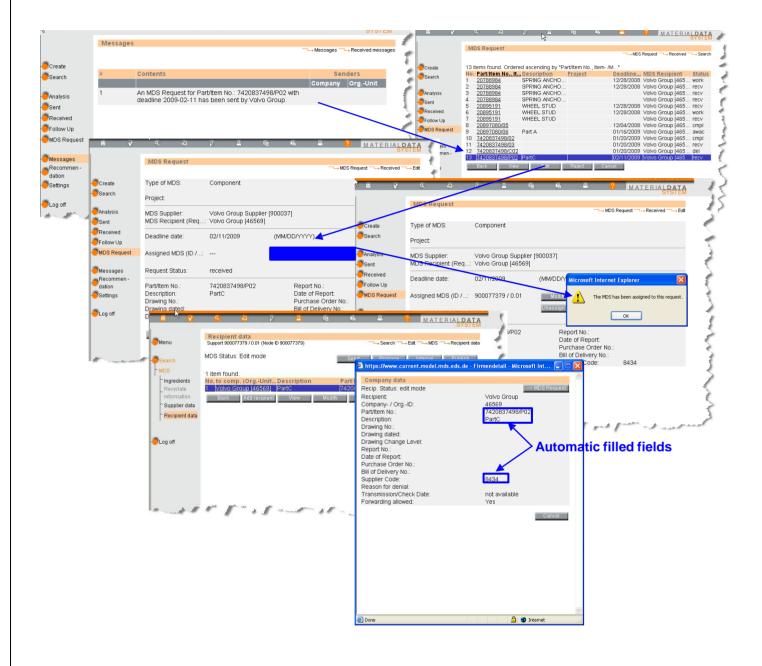


9.1.2.2 Assign a MDS to a MDS request

There are 2 ways to assign a MDS to a request:

- If the MDS already exists, the function "Assign MDS" is to be used
- If the MDS doesn't exist, the function "Create" is to be used. This function will enable the supplier to both create the MDS and assign it to the request

Whatever the function chosen, the recipient chapter of the MDS will automatically be filled.



9.1.3. MDS Sending

In IMDS, there are four possibilities to submit a MDS:

- "send": the MDS will be sent to 1 recipient
- "propose": the MDS can be sent to several recipients
- "internal": the MDS will only be available for internal use only
- "Publish": the MDS will be available for everybody.

Volvo requires that the supplier use <u>send</u> for each MDS (i.e.: "propose", "internal" and "publish" are not allowed for submitting a MDS to Volvo) to the recipient(s) defined in section 4.3.2., even if the part concerned will be delivered to several companies of the Volvo group

Before sending the MDS, the supplier has to assign it to the request. The MDS request status becomes "completed" when the MDS is accepted.

9.1.3.1 Volvo Group ID in IMDS

One company ID has been created for the whole Volvo Group in IMDS.

The Volvo Group company ID is 46569.

It is valid for all the Volvo Group companies, i.e. all MDS shall be sent to this Volvo Group ID.

9.1.4. MDS Update

9.1.4.1 Request coming from Volvo

In IMDS, it is not possible to reassign an MDS already attached to a previous request of the same customer.

An update of the MDS is necessary. There are 2 types of MDS update:

- By the function Copy / Copy. A new MDS ID will be then created.

By the function Copy / New version. No new MDS ID will be created. The version of the IMDS will increase.

As the demand comes from Volvo, the supplier has to answer the MDS request by either assigning a Copy / Copy or a Copy/version of the previous MDS. Actually, it will ensure that the recipient data is correctly filled.

The supplier can choose the way that best fits to his internal methods but it must at least respect the warning given on IMDS FAQ:

When assigning a copy / new version to a MDS request, the supplier will have to overwrite the recipient data.

9.1.4.2 Request coming from the supplier

When the modification comes from the supplier, there are 2 possibilities:

- The change doesn't imply an update of the Volvo part number, the supplier has to use the Copy / New version data so that he is sure that recipient chapter is right. Only if the change requires an update of the accepted MDS connected to the part before the modification.
- The change implies an update of the Volvo part number, there will be a new PPAP order and MDS request coming from Volvo.

10. CONTACTS - VOLVO

If any question about Volvo Substances reporting specific requirements:

Volvo GTT: Substrack.VolvoGTT@volvo.com
 Volvo CE: Substrack.VolvoCE@volvo.com
 Volvo Penta: Substrack.VolvoPenta@volvo.com
 Volvo Buses: Substrack.VolvoBus@volvo.com

This guidelines and other information related to the material and substances composition reporting are available in the section "environment" of the E-library of the <u>Volvo Group Supplier Portal Extranet</u>

