IMDS Recommendation	IMDS 015

Automotive Steering Systems

1. Purpose

This recommendation describes the general requirements for the creation of Material Data Sheets for Automotive Steering System assemblies: Columns assemblies, Gears assemblies, Pumps assemblies, Hoses assemblies and Transmission (Half shafts) assemblies.

2. References

- IMDS001 general recommendation.
- Global Automotive Declarable Substance List (GADSL, www.gadsl.org).
- Recommendation documents on fasteners (IMDS008), coated metals (IMDS007 and IMDS 009), plastics (IMDS010), elastomers (IMDS 003), circuit boards (IMDS019) and electronic parts.

3. Definition

The Steering System is made of different assemblies supplied in many cases as separate assemblies.

3.1 Part 

The Steering System parts, like Column assemblies, Gear assemblies, Pump assemblies, Hoses assemblies and Transmissions (Half shafts) assemblies, are standard units.
All this assemblies are described with parts, sub-parts and / or flat bill of materials.

Here are some general guidelines:

- All materials and substances involved have to be mentioned and quantified within the accuracy limits stated in the IMDS guidelines
- Materials, containing reportable or prohibited substances have to be mentioned specifically (e.g. Lead in PVC, Aluminium Alloy, Hex Chromium in annex II ref. 2002/525/EC of 2000/53/EC directive....)
- Steering Systems containing the maximum number of options could be taken as representative product

3.2 Material 

Describes from which material a part is produced of. Materials consist of substances (for further information see IMDS001).

3.3 Substances 

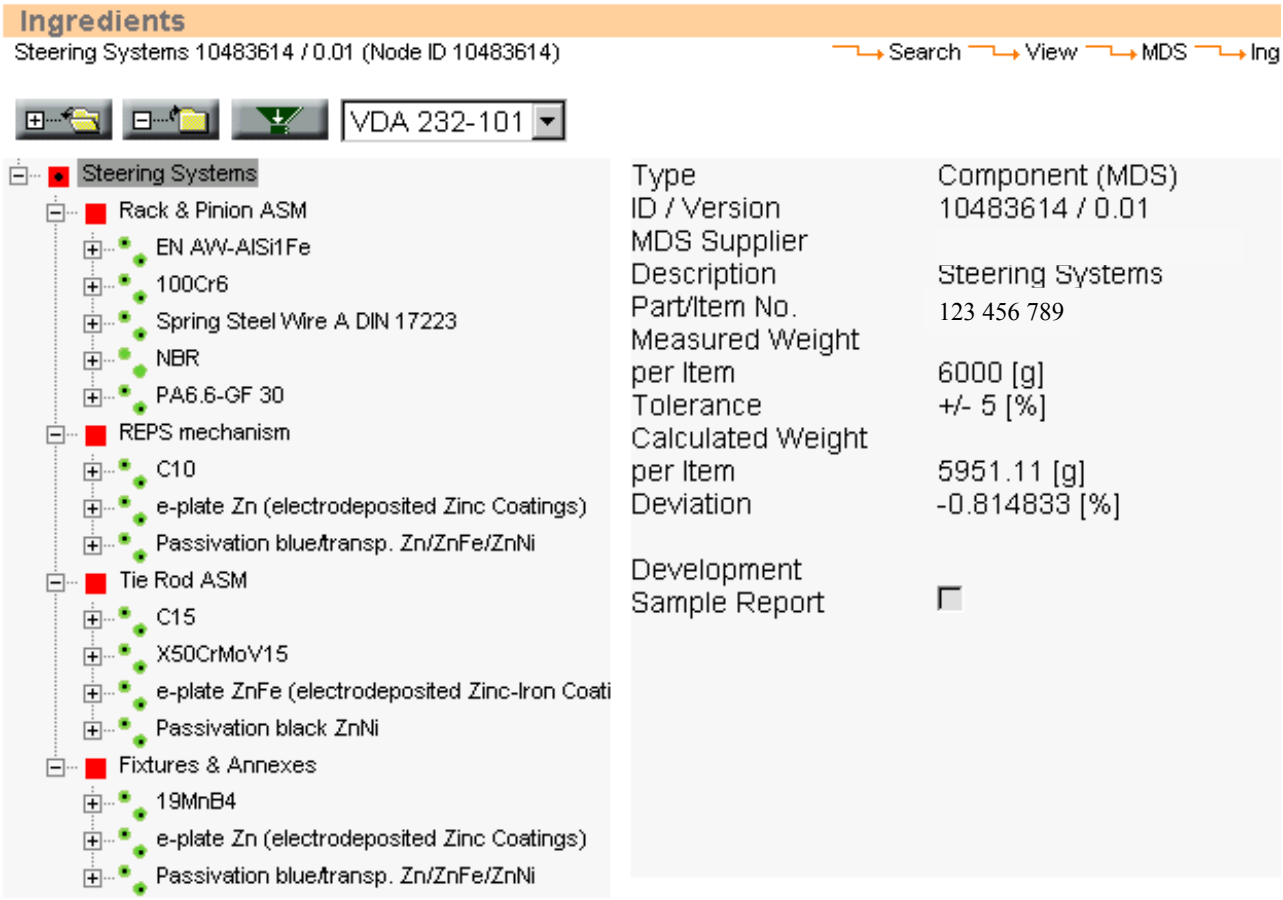
Substances describe a material. A material consists of one or various substances. Main substances and all substances listed in the GADSL list have to be reported.

4. Examples

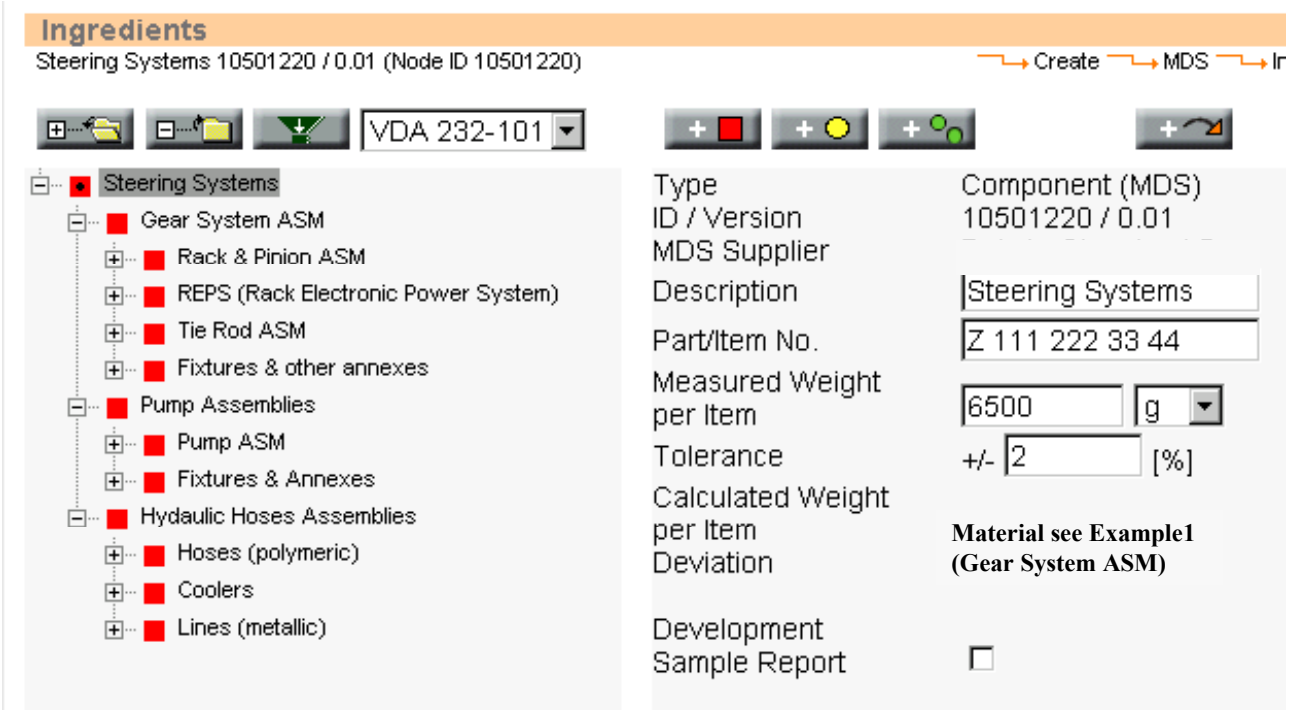
The following examples show how to structure a standard steering system.

- Example 1: Gears System assembly
- Example 2: Gear assemblies, Hoses assemblies and Pump assemblies
- Example 3: Column system

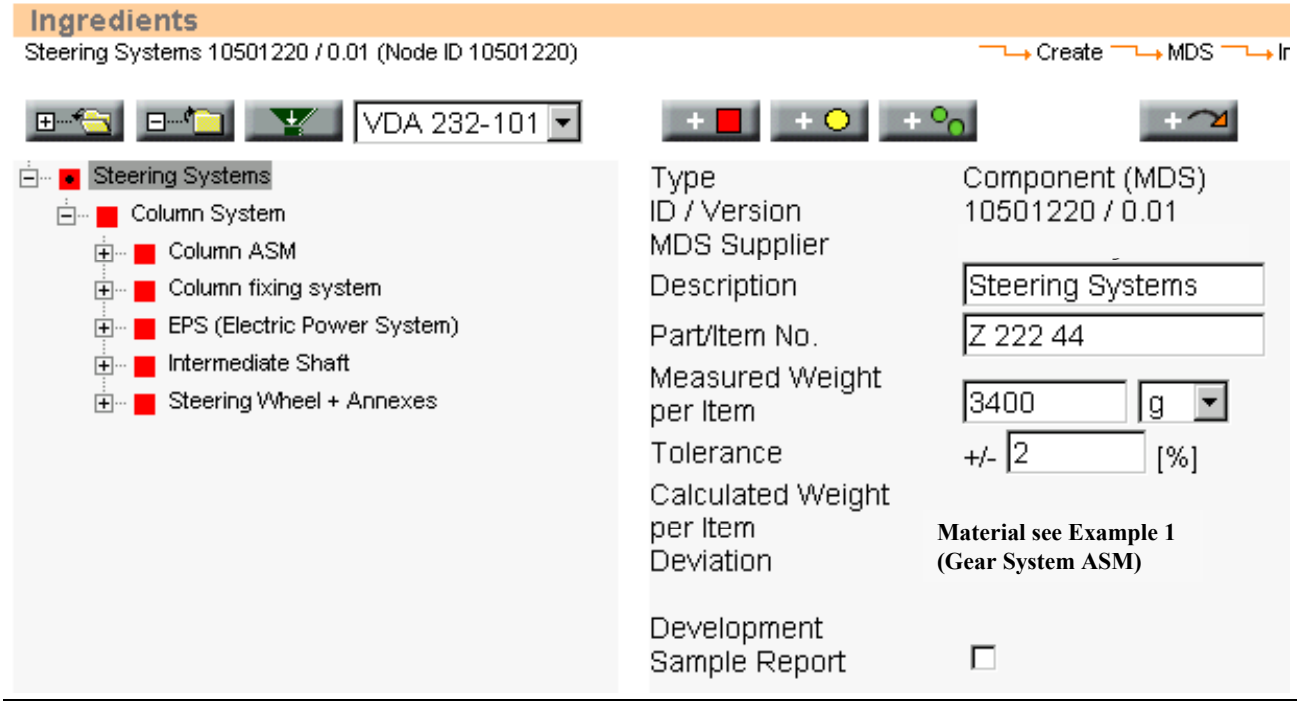
4.1 Example 1: Steering System = Gear System Assembly only



4.2 Example 2: Steering System = Gear + Pump + Hoses



4.3 Example 3: Steering System = Column System only



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6 Release and Revisions

6.1 Release

The recommendation was first approved and released March 2004.

6.2 Revision

Rev.	Date	Description / Reason	Released by
01	June 2005	ILRS to GADSL	IMDS Material Services

7 Cooperation and Assistance

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