Material Declaration

Community of Practice on Chemicals in Products

Webinar, 18.02.2021

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The long way through a typical international supply chain

- Tier 1 (OEM)
  - 1,75 Mio
  - 3,75 Bn
- Tier 2
  - 1,500
  - 750.000
  - 75 Mio
  - 3,75 Bn
- Tier 3
  - X 500
  - X 100
  - X 100
- Tier 4
  - X 50
- Tier 5
- Tier 6
- Tier 7

Stufe

1. Raw material Producer (Tier 4)
   - Natural rubber
2. Material Formulator (Tier 3)
   - Rubber
3. 1. Article Producer (Tier 2)
   - Sealing
4. End Producer (Tier 1)
   - Fuel Pump
5. Vehicle Producer (OEM)
   - Vehicle
Major prerequisite - KNOWLEDGE

Which substances are

- contained in my products

and are

- (likely to be) regulated?
- (likely to be) hazardous?
- (likely to cause) a risk?
- likely to be substituted?
- likely to be important for recyclers
- likely to ....?
IMDS - a global online tool

www.mdsystem.com

WILLKOMMEN IM INTERNATIONALEN MATERIAL-DATENSYSTEM

To protect CBI, Material Manufac. are allowed to „hide“ up to 10% of their recipe behind so called „Jokers“, e.g. “Further Additives”

BUT:

If a substance is listed on GADSL (= prohibited or declarable), it must not be hidden behind a Joker but has to be reported

⇒ No CBI Protection for GADSL Listed Substances

⇒ GADSL has to be absolutely correct to ensure CBI Protection
Features of IMDS

- All involved parties can use IMDS via internet.
- IMDS is free of charge for the supply chain.
- Data security is ensured by user and transaction-related security architecture.
- Within the supply chain, material data can be forwarded in real-time according to authorization rights.
- The material data remains in possession of the creator who grants using rights to specific receivers.
- The system undergoes continuous improvements and enhancements to fulfill new requirements.

- Structure of a part (according to bill of materials)
- Materials Used (incl. material categories)/
- Weights of the components and
- Substances (incl. all substances of concern)
- Concentration of the substances within materials
Further numbers:
85.000.000 Material Datasheet
Ø 2.400 Concurrent Users
~14.000 Reported Substances
Data Quality

- It costs many Millions of € to develop, maintain and optimize the system
- The increase of data quality is the result of an intensive cooperation between vehicle manufacturers, their suppliers and the chem. industry
- **It took years to train the supply chain = get reliable data!**
Strong and weak points of these processes and tools

**STRENGTH:**
- Well established process in the whole automotive sector (Global Standard)
  - Suppliers can address many customers with the same solution
- Well trained supply chain
- Broadly accepted by chemical industry (CBI protection)
- Comprehensive overview on substances used in cars
- Known and accepted by global legislators (Simplified Compliance Audits)
- Reporting by the one with most knowledge (Substance, Material or Part producer)
- Cost free for supply chain
- ...

**WEAKNESS:**
- Costs of ownership
- Complexity of reporting
- Duration for a correct and complete data collection / updates is partly not in line with legal timeframe (e.g. Art 33, REACH)
- Dependency on supplier support and information (Poor data = poor compliance)
- Sh..in, sh... out principle
Secret of success

- Factors that enabled the Automotive Industry to implement IMDS
  - Very homogenous industry (limited number of global vehicle manufacturers)
  - Very similar quality standards across all vehicle manufacturers
  - Material compliance is mainly considered a non-competitive business area
    - Very open and good cooperation (Challenge: Competition law...)
  - Early legal requirements (ELV Directive - Heavy Metal Ban in 2003)
  - Large influence in AND good cooperation with global supply chain
  - High longevity of our products = less dynamic variation of article compositions (except electronics)
    - It takes up to 6 month to get a full reporting for a complex component (e.g. Instrument Panel)
Main challenges for other sectors

- Most sectors are more heterogeneous than the Auto Industry, e.g. Electronics, Textiles, ...
  - More end-product manufacturers
  - Different quality standards
  - Less cooperation
  - Legal requirements started late (with REACH!?)
  - Very few influence in / cooperation with supply chain
  - More dynamic supply chain

Less influence / pressure into the supply chain = Less success!

The more harmonized a sector is, the more efficiently it can implement such a system!
• Most stakeholders completely underestimate the complexity and overestimate the feasibility of development, maintenance and usage of a SiA reporting tool.

• But also many industries still consider such knowledge as burden and not as chance.
Case Study: Challenges of EE-Reporting’s

• Highly dynamic supply chain
  – Suppliers for the same product (e.g. resistors) are changing within hours / days
  – The detailed material composition of a PCBA therefore changes continuously several times a day, even within a production batch
  – Identical is only the performance but not necessarily the material composition

• Difficult supply chain - reduced possibilities to insist in Art 33 information
  – Often suppliers are larger than the OEMs (less pressure / influence into supply chain)
  – Only few EU based component suppliers – no legal but only contractual obligations!

• Highly complex micro articles
  – Possible hundred's of Art 33 reporting's only for one small PCBA (e.g. Lead in solder)
  – Very few Milligrams of the SVHC

→ A correct reporting for E/E is totally unrealistic!
100% data completeness is almost impossible?
Recommendation to Industry

- All of industry may start with a pro-active initiative on the development of common rules

**Major prerequisites for a cross-sector data exchange:**

- **Data Structure/Format and Detail**
  - Full Material Disclosure vs. e.g. Negative reporting
  - Database, xml, pdf, …

- **Data security**
  - Who is allowed to have access to the data and system (Internal: e.g. No Purchasing & External: e.g. No Authorities?)
  - How is the data protected (e.g. against hacking)?

- **Data usage**
  - For what purpose the data is allowed to be used (e.g. (Environmental protection, Compliance vs. Commercial use)?

- **Data collection**
  - Similar Basic Substance List (BSL)
  - Reporting against the same Restricted Substance List (GADSL), etc.

- **Data quality**
  - Joker handling (≤ 10%)
  - Process Chemicals
  - Correctness of data, etc.

- The more harmonized within a sector, the more individual industries and the sooner… **the better!**

- Sector / market leaders have to set the scene… others will (have to) follow

- Service providers MUST NOT lead but have to follow!

- No cross sector harmonization will turn the advantages into disadvantages….
### Potential advantages of the Chemicals in Products Programme

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<tr>
<th>For Industry</th>
<th>For other Stakeholders</th>
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<td>Major cost savings in the supply chain caused by the implementation of sector wide approaches using standardized and automated methodologies</td>
<td>Product designers are better informed of chemical content issues</td>
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<td>Legislators and non-governmental organisations come to appreciate the sector’s compliance processes</td>
<td>Waste management activities can be guided</td>
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<td>In case of new substance obligation, the sector has the possibility to take the necessary countermeasures in time</td>
<td>Increased access by Governments to chemicals in products information</td>
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<td>Facilitate supplier compliance</td>
<td>Non-governmental organizations have increased access to CiP information</td>
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<td>Opportunities for innovation and green chemistry</td>
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<td>Individual customer requests can be satisfied with reliable answers</td>
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Table 1: Extract of Box 2 in the [Guidance for stakeholders on exchanging chemicals in products information](http://wedocs.unep.org/bitstream/handle/20.500.11822/21228/CiPProgramme_Industry%20Extract_FINAL.pdf?sequence=1&isAllowed=y)
A FMD provides the %-weight of each individual material in the part and the %-weight of each substance which is intentionally added to each material =>

**DEFINED DATA** → **ALL DATA**

Its implementation is not an easy task but a strategic goal which could solve many of the before mentioned challenges...

<table>
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<tr>
<th>Pros</th>
<th>Cons</th>
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<tr>
<td>No need to continuously update declarations when legal/non-legal requirements are updated/ increasing (e.g. more substances are added to regulatory lists).</td>
<td>Large efforts are required to prepare for FMD, especially but not only for complex articles.</td>
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<td>Helps to quickly evaluate own product portfolios against diverse current and future substance requirements (No timely delay).</td>
<td>Risk of losing proprietary information on Confidential Business Information (CBI).</td>
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<td>Helps to start with timely compliance and advocacy measures incl. substitutions</td>
<td>Risk of non-acceptance by supply chain members (Contradicting company policies!)</td>
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<td>Long term: Cost decrease &amp; Quality increase</td>
<td>Risk of higher system costs for data security</td>
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GADSL – Benefits of a Declarable Substance List

**Input**
- Worldwide different Regulations & Requirements
- Worldwide different OEM-specific requirements

**Output**
- High effort necessary to collect all relevant information individually
- Increasing costs within the supply chain

**Solution: Only one list, which will not be developed individually, but in a global cooperation**

- European requirements collected by European members
- Korean requirements collected by Korean members
- Japanese requirements collected by Japanese members
- North American requirements collected by US members

- The realistic alternative to a FMD (→ 100% declaration of at least the listed substances)
- No cross sector harmonization will turn the advantages into disadvantages….
Global regulatory monitoring project

• Develop a common & solid processes for monitoring global SOCs requirements:
  o Advocacy: take influence before regulations are enforced (Drafts)
  o Assessment: define impact on Automotive Industry business to maintain GADSL
  o Act: implement countermeasures & ensure compliant products.

Which regulations apply to the (Auto-) sector and how are relevant substances regulated?

• GRMS² Project is ongoing
• Service provider: Yordas Group (former: The Reach Center)
• System is Life since Nov 2018
• Licenses for automotive stakeholders are available
Future outlook / recommendation

Proposal:

Cooperation with governments e.g. by involving

- OECD: Possibility extension of the OECD Substitution and Alternatives Assessment (SAAT) Toolbox
- WTO: Possible link to WTO Notification Process
- UN Environment / SAICM: Possible extension of the CiP* Program and/or other SAICM initiatives
- ECHA: Possible extension of the e-chem portal

*CiP: UNEP / SAICM Program on Chemicals in Products

Proposal for a solution, driven by an International Organisation (IO)

Individual industry driven initiatives are neither efficient nor fully reliable
Advantages of an „IO“ driven initiative

• Global SMEs incl. Industries in Development Countries:
  – Can make business decisions based on information that is correct and inexpensive

• Industries in general:
  – Don’t have to invest separately into similar projects (as it is today)
  – Will benefit from the possibility to comment into the legislative development process
  – Will be able to prepare early for a possible regulation
  – Waste sector: Will benefit from a more sustainable waste stream

• Global Legislators:
  – Will benefit from the input of Industry to improve the legislation (Lessons Learned from the successful REACH PACT / RMOA Process)
  – Legislative development process of developing countries will improve

• Consumers
  – Will benefit from increasing compliance of the End-Products