Implementation of REACH in a metalworking industry: a perspective from a downstream user

(MCSLM16_P21)

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REACH Regulation

- Improve the protection of environment and human health
- Promotes alternative methods for the hazard assessment of substances in order to reduce tests on animals
REACH

- Four major elements

1. Registration: data collection on chemical use and toxicity
2. Evaluation: examination by governments of the need for additional testing and regulation of chemicals
3. Authorization: requirements for firms to seek permission to use chemicals of high concern; and
4. Restrictions or complete ban of certain chemicals that cannot be used safely

Introduction
REACH – Downstream users

Use a substance, either on its own or in a mixture, in the course of his industrial or professional activities

Mixtures’ formulators, industrial users of chemicals, article producers, craftsmen, workshops and service providers or refillers
The present study:

- Intends to give a practical perspective of the implementation and compliance of REACH requirements together with other relevant legislation such as OHS legislation.

- It is focused on the finishing treatment given to metal articles, where a substance of very high concern (SVHC) was used.
Source: CSA submitted by Souriau-Esterline to ECHA (2016)
Implementation of REACH requirements

1. Identification of the role of the company under REACH

- Consisted in the identification of the company’s role (or roles) under REACH, in order to know the specific obligations and to define specific actions
# Implementation of REACH requirements

## 2. Inventory of chemical substances in use

- **Chemical database (Microsoft Excel®)**

<table>
<thead>
<tr>
<th>CAS and EINECS codes</th>
<th>Supplier and country of origin</th>
<th>Trade name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance or mixture</td>
<td>Safety data sheet (SDS) date (actual)</td>
<td>Chemical use in the production process</td>
</tr>
<tr>
<td>Risk phrases</td>
<td>Classification of substances of very high concern (SVHC)</td>
<td>Substances with restrictions</td>
</tr>
<tr>
<td>Exposure sceneries (operating conditions (OCs))</td>
<td>Risk management measures (RMMs)</td>
<td>Annual quantities purchased (in the last three years)</td>
</tr>
</tbody>
</table>
Implementation of REACH requirements

3. Communication in the supply chain under REACH

- The communication between the registrant and downstream user (DU) is crucial for the overall success

- (The SDS checklist available in various languages on ECHA’s website was used in this study)
Implementation of REACH requirements

4. Action plan to accomplish with REACH

- Definition and development of an action plan containing the actions to take *per role*, deadline and status of the actions
## Implementation of REACH requirements

### 5. Identification of the amount of SVHC in the final product

- Organize all the relevant information in a database about the articles produced in the company

<table>
<thead>
<tr>
<th>Sales code</th>
<th>Supplier and country of origin</th>
<th>Trade name</th>
<th>Final product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety data sheet (SDS) date (actual)</td>
<td>Chemical use in the production process</td>
<td>Components</td>
<td>Initial mass</td>
</tr>
<tr>
<td>Surface finishing/treatment</td>
<td>Exposure time</td>
<td>Final mass</td>
<td>SVHC included in the candidate list?</td>
</tr>
<tr>
<td>SVHC identification</td>
<td>% SVHC in the final product</td>
<td>SVHC placed on the marked (ton/year)</td>
<td>Report to ECHA needed?</td>
</tr>
<tr>
<td>Substances intentionally released?</td>
<td>Substances required for registration to ECHA?</td>
<td>Compliance with REACH Restrictions</td>
<td></td>
</tr>
</tbody>
</table>
Implementation of REACH requirements

5. Identification of the amount of SVHC in the final product
   - The requirements of REACH define that in a final article, the amount of SVHC cannot represent more than 0.1% of the total mass.

- Selection: Forty-five final articles
- Analyse: Mass determination before and after the electroplating process
- Prevention: Absence of dangerous quantities of SVHCs in articles entering in the market
Implementation of REACH requirements

6. Alignment of OHS obligations with REACH implementation

- The production process of the company under study, may affect workers’ health and safety and it is expected to have risks evaluated and communicated across the supply chain.
Results and Discussion

Inventory of fifty-seven chemicals agents

Three chemical agents: **SVHC**
(Article no. 57 of REACH)

One mixture: **hexavalent chromium (Cr VI)** in the form of **chromium trioxide**

Authorisation
### Results and Discussion

<table>
<thead>
<tr>
<th>Actions</th>
<th>Deadline</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask the suppliers the SDS updated according to REACH</td>
<td>Immediately, and if any FDS is outdated</td>
<td>They have been requested to all suppliers</td>
</tr>
<tr>
<td>Evaluate with suppliers if the substances have been registered and/or pre-registered in the legally prescribed deadlines.</td>
<td>Immediately</td>
<td>They have been requested the registration status to all suppliers</td>
</tr>
<tr>
<td>Transmit to the supplier’s information on its uses, if the substance is not yet registered.</td>
<td>Until May 31, 2017, since the registration deadline is May 31, 2018</td>
<td>It was provided all the information on the use given to the substance and conditions of use in the company. For chemicals already registered, the company must make sure that the SDS provides for the use given to the substance in its facilities and associated conditions of use.</td>
</tr>
</tbody>
</table>
### Action Plan

**Downstream user**

<table>
<thead>
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<th>Actions</th>
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<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement the measures specified by the suppliers to ensure the safe use of the substance (as SDS)</td>
<td>12 months from the reception of the SDS date regarding to the registered substance</td>
<td>The company must analyse the FDS, identify and take the necessary measures to control the risks in its facilities</td>
</tr>
<tr>
<td>Implement the measures communicated in the exposure scenario</td>
<td>When applicable</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Evaluate if any of the substances used has any type of restriction and, if applicable, accomplish with the imposed restrictions (Annex XVII of REACH)</td>
<td>When applicable</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Assess whether any of the substances used, is in the list of substances subjected to application for authorization (Annex XIV of REACH)</td>
<td>When applicable</td>
<td>Currently the company uses the following substances listed in Annex XIV: chromium trioxide (VI)</td>
</tr>
<tr>
<td>Ask suppliers / manufacturers of chemical substances subjected to authorization request if they intend to request authorization for the substance, including its use</td>
<td>The deadline for the submission of the request for authorization by the Consortium was February 2016</td>
<td>In May 2015 it was submitted to ECHA the request for authorization for the use of chromium trioxide after the use of the deadline in August 2017 (after this date cannot be used without permission from ECHA). It is under review and public consultation</td>
</tr>
</tbody>
</table>
SDS of the mixture that contained chromium trioxide showed that:

1. The mixture SDS did not indicate its use on section 1.2.
2. The SDS must be reviewed since mixture was classified according to the Directive 1999/45/CE, but its components (substances) had been classified according to the CLP.
3. SDS of dangerous substances did not come along with the mixture SDS nor does the mixture SDS include all relevant dangerous substance information, both ECHA’s recommendation.
Chromium trioxide

- DU must have, in 2017, to communicate if they are using this chemical agent registered for that use, otherwise they have to substitute the chemical agent which is rather difficult since is commonly used in the metallurgic industry
- Acute and chronic toxicity, corrosivity as well as skin and respiratory sensitization; reproductive toxicant, a germ cell toxicant and in particular, a carcinogenic substance
- Occupational Exposure Level (OEL) (Section 8 of the mixture’s SDS – Control of individual protection/exposure)
- TWA: 0,01mg/m³ (NP 1796 (2014))
The implementation of REACH requirements is a time consuming and continuous process that requires knowledge on REACH.

The communication among the supply chain is fundamental for REACH and OHS purposes.

SDS quality is generally poor and there is lack of information on PPE and RMMs for identified ES.

Develop systematic and periodical actions to promote training and awareness in this vast subject that is REACH.
THANK YOU FOR YOUR ATTENTION


