ESComXML
ES for Communication XML standard - description

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Prepared by the Cefic ES Working Group

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Preamble

REACH Exposure Scenarios (ES) are a new concept for establishing and communicating conditions of safe use of substances in the supply chain, for substances that are hazardous and are manufactured / imported >10 t/a.
ES information will be communicated via two main data flows:
- to ECHA via the Chemical Safety Report (CSR), as part of the registration dossier and
- to the Downstream Users via the Extended Safety Data Sheet (eSDS), covered in the 'ES for communication'.

The ESComXML (**ES** for **Com**munication **XML**) standard has been developed to enable consistent and transparent exchange of Exposure Scenario (ES) information between computer systems in the Supply Chain to support Downstream Users. Regardless of the IT system by which the ES has been created, submitting ES data using this standard will assure seamless readability by other computer systems, also complying with this standard. Hence, the ESComXML is created to support the electronic exchange of Exposure Scenario (ES) information between computer systems in the Supply Chain in addition to eSDS documents.

The ESComXML standard has been developed as result of an initiative from Industry Associations (Cefic, DUCC, FECC), IT providers (EHS / SDS software), ECHA and BDI. The project was triggered by a strong need for consistent and seamless exchange of ES data throughout, which all companies can benefit from.

The standard can be downloaded for free from the Cefic website at http://cefic.org/en/reach-for-industries-IT-tools.html . It will assist companies to easily exchange ES data with other companies in electronic form, at the same time enabling IT systems to transform ES data into different languages, which is due to the fact that Exposure Scenarios will be composed using Standard Phrases, for which the Euphrac Phrase Catalogue (www.euphrac.eu) will be the common source.
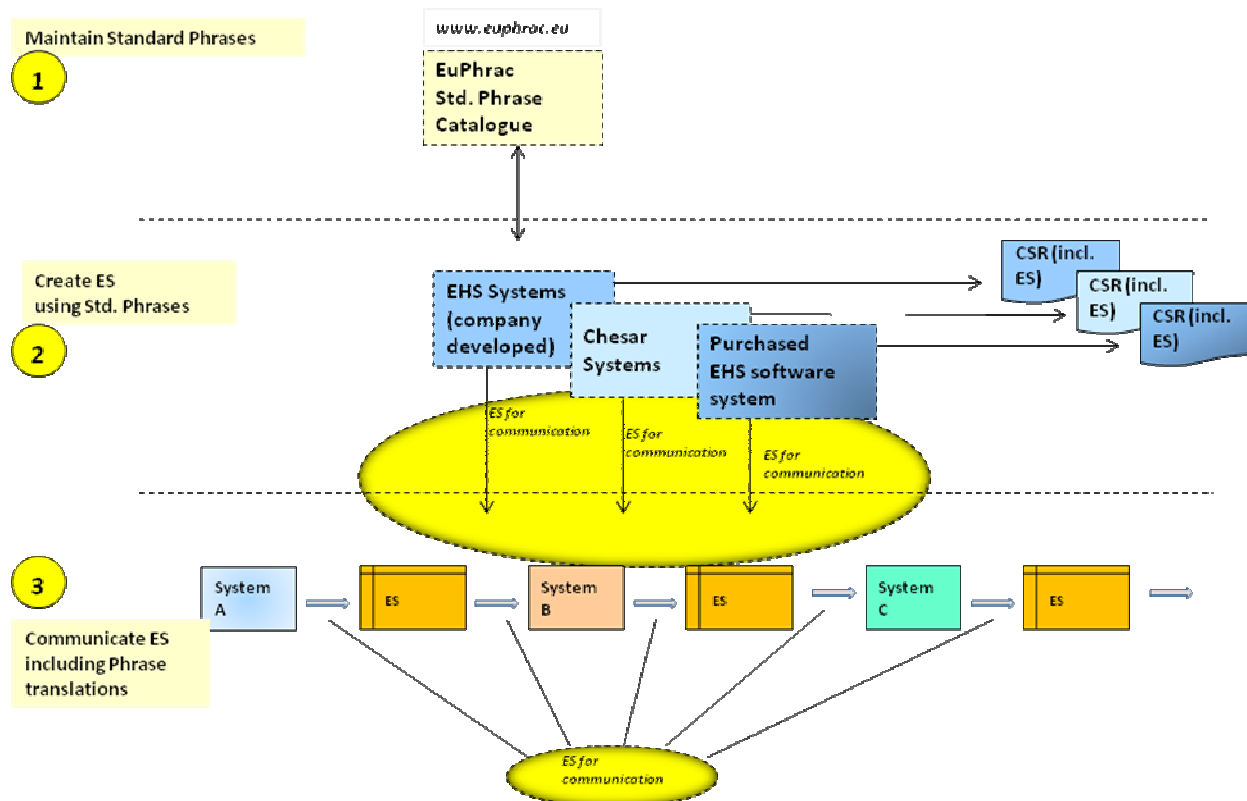
1.   ESComXML Standard details

1.1   Scope – Release 1.0

The scope of this standard (Release 1.0) is the 'ES for communication' which covers the annex to the SDS (eSDS) according to REACH. This ES is (slightly) different from the ES data that is embedded in the CSR, which is submitted as part of the registration dossier to ECHA.
The ESComXML standard will be applicable for EHS/SDS related IT systems across companies which create, modify, read and/or communicate Exposure Scenarios.

See diagram below:

- Layer 1: Standardized Content for ES:
    - o Major content for the ES is made available as standard phrases. The source for the content is the ES phrases of the EUPHRAC catalogue (www.euphrac.eu).

- Layer 2 – Chemical Safety Assessments:
    - o ES are created by different IT systems, i.e. Company developed, Chesar (ECHA system), EHS/SDS purchased software systems.
    - o ES data for ECHA are embedded in CSR, Chapter 9 (not in scope of ESComXML Standard)
    - o ES data, submitted from Manufacturers / Importers to Downstream Users in Supply Chain are included in the Extended SDS, in the 'ES for communication'.
- Layer 3:- Communicating ES information in the supply chain.
    - o Companies in the Supply Chain may adjust ES for their products, and submit to their customers, using the ESComXML standard.
    The use of Standard phrases, based on a common Phrase Library, i.e. Euphrac, will enable the electronic transformation of ES into many different languages

1.2   Use of Standard Phrases

The **Eu**ropean **Phr**ase **C**atalogue (Euphrac) is the source for ES Standard Phrases, which can be downloaded into an IT system's local Phrase library (English language).
Exposure Scenario Standard Phrases are the key building blocks for creation of Exposure Scenarios, which increase the consistency of ES's significantly. In addition, transformation of ES's to other languages can be done by IT systems. Exposure Scenario Standard Phrases are currently developed by chemical industry and fed into Euphrac.

1.3   Stakeholders

The ESComXML standard has been developed as result of an initiative from Industry Associations (Cefic, DUCC, FECC), IT software providers (EHS / SDS software), ECHA and BDI. The project was triggered by a strong need for consistent and seamless exchange of ES data throughout the Supply Chain, which all companies can benefit from.
For Release 1.0 development, Cefic took the lead to coordinate the project activities.

1.4   Chesar reconciliation

For ECHA's Chesar system, supporting e.g. the creation of CSRs (including ES data) as well as the 'ES for communication', reconciliation will take place in order to make Chesar's 'ES for communication' compatible with the ESComXML standard for those parts that are relevant for Chesar. Chesar 1.2 is planned for release in Dec. 2010.

1.5   ESComXML – Release 1.0 rollout

Although Release 1.0 will not cover extended requirements that were raised by a number of Stakeholders, this version will contain the required information to be communicated to Downstream Users.

1.6   ESComXML Standard – Release 1.1

During the development of Release 1.0, a number of additional requirements have been raised by stakeholders, requesting to include related data, targeted for other purposes (particularly scaling), but which will be efficient to be submitted within the same ES 'data envelope'. Release 1.1 development will start in October 2010. Leadership for this project will be published soon, in addition to project details.

1.7   Standard development Ownership

At this stage, ESComXML Rel. 1.0 will be owned by Cefic. However, activities are ongoing to establish ownership for future support and maintenance of this standard at BDI / Business Europe.

1.8   Who to contact

For more information on the ESComXML standard, feel free to contact the Cefic secretariat at sle@cefic.be
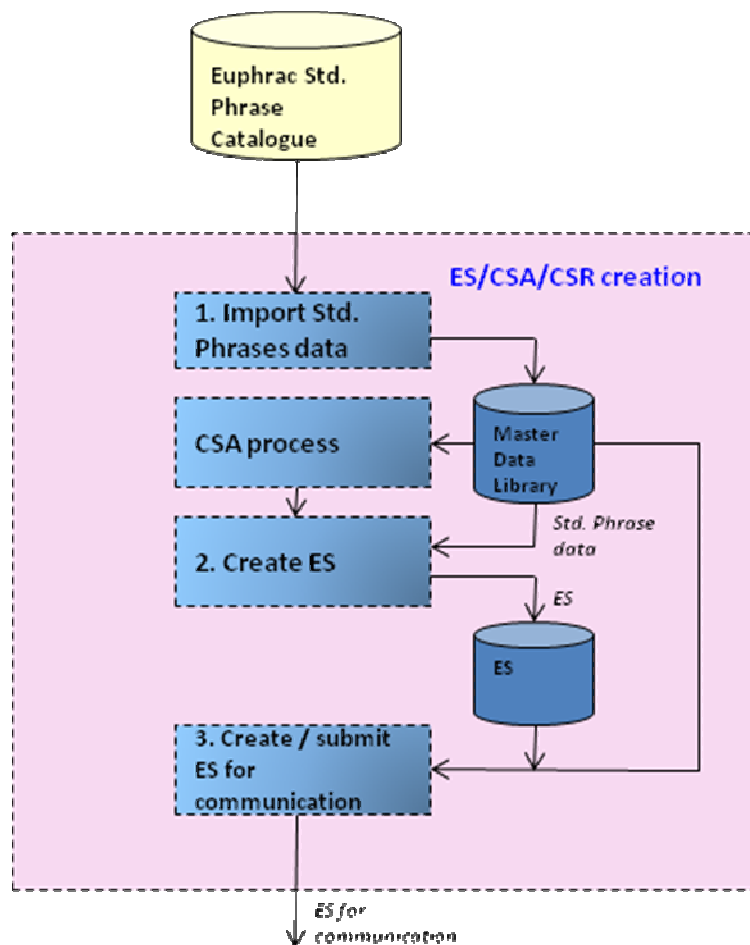
2   Implementing the ESComXML Standard

2.1   How to comply with the ESComXML Standard ?

This section addresses two key 'places' in IT software products to be evaluated by (IT) companies / departments on how to comply with basic principles and rules to achieve the standardised ES deliverable, i.e.

•   When importing / storing Euphrac Phrase data
•   When creating 'ES' / 'ES for communication', using Standard Phrases

See diagram below:

Re 1: Import of Standard Phrases data

2.1.1. Essential data fields for maintaining ESComXML standard information

It has been agreed that the Euphrac Phrase Catalogue will be the common source for ES Standard Phrases. A list of key data fields will shortly be published, of which following fields are essential to be imported and stored in IT systems creating ES's, compliant with the ESComXML standard:

  o   Phrase Id.
  o   Sector Group Phrase Id.
  o   Language code
  o   Phrase text

In addition, a number of metadata fields will be downloaded together with the above; These metadata fields may be used by an IT system to e.g. filter and select Standard Phrases during the CSA process and creation of Exposure Scenarios..

2.1.2. Handling the ESComXML standard information

Each IT software provider / department will decide on how to map, merge or integrate imported Phrase data with their own Master data Library / Phrase catalogue.
However, minimum requirement is that the Euphrac Standard Phrase key data fields will not be modified to assure that they can be used as such at the point of ES creation.
Remark: Mapping of different Phrase catalogues with Euphrac would ideally take place at the source, i.e. by the Catalogue providers.

Re 2: Including Standard Phrase data in Exposure Scenarios
Note: For the purpose of this document, this paragraph only addresses the creation of the 'ES for communication' – XML file creation.

2.1.3. Rules for communicating ESComXML standard information

Due to the objective of the ESComXML Standard, i.e. to achieve transparent communication of ES data throughout the Supply Chain, a number of rules have to be adhered to, in order to meet this objective: When creating Exposure Scenarios, regardless of the IT system, the output 'ES for communication' has to comply with:
- the **structure** as defined by the ESComXML standard
- data **content** to be compliant with the Standard phrase data according to Euphrac Phrase codes.

Remarks:
2.1.4. Version management
- Due to the fact that different versions of the Euphrac Phrase catalogue will exist, the ES XML file will contain the Version number which has been used as the source to create a particular ES. The receiver of the ES has to assure that the same Euphrac Catalogue version is in place in order to read the ES completely and correctly.

In case IT software systems have merged / stored Euphrac Phrase data in their own proprietary Master data / Phrase Library, the ES will be populated with Phrase codes and descriptions which comply with the Euphrac Phrase catalogue.

2.2   Example 'ES for communication'

Below link provides access to an example of 'ES for communication':
Link to document '2010 09 27 - ES for communication Example for XML incl Std Phrases.pdf'

Remark: Be aware that this example reflects work-in-progress.

2.3   Example 'ES for communication' – XML file

Below link provides access to an example of how the above ES example will be implemented in a XML file:

Link to '2010 09 27 - ESComXML xml example version.pdf'

3 Glossary

Acronym	Description
BDI	**B**undesverband der **D**eutschen **I**ndustry
Cefic	European Council for the Chemical Industry
CSR	**C**hemical **S**afety **R**eport
DUCC	**D**ownstream **U**sers of **C**hemicals **Co**-ordination
ECHA	**E**uropean **CH**emical **A**gency
EHS	**E**nvironment, **H**ealth and **S**afety
ES	**E**xposure **S**cenario
ESComXML	**ES** for **Com**munication **X**ML
Euphrac	**Eu**ropean **Phra**se **C**atalogue
FECC	European Association of Chemical Distributors
IT	**I**nformation **T**echnology
SDS	**S**afety **D**ata **S**heet
XML	E**X**tended **M**arkup **L**anguage
XSD	**X**ML **S**chema **D**efinition