

Key Features for Exchanging Product Information along the Supply Chain
An interpretation of the SAICM Chemicals in Products (CiP) Programme
Guidance document from an industry view point

Purpose & Motivation

An efficient and transparent flow of chemical information is a critical element of ensuring proper stewardship of substances along the value chain, enabling and empowering users of chemistry to make informed decisions on their management.

Following this principle, the SAICM Chemicals in Products (CiP) Programme was established with the overall objective to assist industry, governments, NGOs and consumers on how to best exchange information on chemicals in products. The CiP program has informed this paper, and the observations below are meant to complement the programme's core objectives:

- 1. Within supply chains, to know and exchange information on chemicals in products, associated hazards and sound management practices;*
- 2. To disclose information of relevance to stakeholders outside the supply chain to enable informed decision-making and actions about chemicals in products;*
- 3. To ensure that, through due diligence, information is accurate, current and accessible.*

The overall scope of the CiP Programme is on "products" which are referred to as "Articles" under EU REACH¹. It is important to understand that the Programme does not cover the already well established downstream user communication about safety relevant information of substances and mixtures e.g. Material Safety Data Sheets.

The primary goal for this paper is to articulate practices that support the exchange of chemical information along the supply chain down to the end consumer and to facilitate relevant information sharing to other stakeholders. It is not the intent of this paper to provide a prescriptive "one-size-fits-all" approach for communicating information across sectors and supply chains; nor is it intended to apply a value judgment on practices. Rather, it is meant to provide an experienced-based look at the CiP programme recommendations and to highlight efficient and effective practices to communicate, receive and evaluate chemical information, and to address requests from supply chain participants. Additionally, it is meant to advance efficiencies and reduce burdens when communicating information among supply chain partners.

One of the overarching principles of supply chain communication is that greater coherence in supply chain communication practices within a sector or even across different sectors will lead to greater efficiency and effectiveness in achieving CiP goals. This paper is aimed at individual companies seeking to employ the CiP programme principles, and to trade associations or other industry 'umbrella' groups that might employ or endorse industry-wide or cross-industry information exchange tools.

¹For the purposes of the Programme, a product is defined as an object that during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition. The Programme focuses on manufactured products. Typical manufactured products intended to be included in the Programme are goods such as textiles, furniture, construction materials, electronics, household items and other consumer goods. For the purposes of the Programme, packaging is considered to be a product itself, rather than an element of the product contained within it.

Key Principles and Features to Promote Communication with Value Chain Partners

Overarching Principles on Supply Chain Communication (5)

1. Engaging in an open dialogue about companies' experiences in the use of supply chain communication tools regarding specific elements (e.g. confidential business information (CBI)) will allow increasing benefits for all stakeholders along the supply chain.
2. All Information required for the safe handling and use of products has to be made available to the supply chain: no relevant information is withheld.
3. Industry standards, such as the Global Automotive Declarable Substance List (GADSL) or IEC62474 (both are examples of standards that specify what substances, substance groups and material classes need to be shared along the supply chain) should be developed and employed in order to facilitate supply chain communication.
4. Exchange of information should be efficient with compatible and secure processes. Industry encourages proactive communication on various attributes, including human health hazards, risk consideration, environmental impacts and other considerations to ensure safe management of chemicals throughout the product lifecycle.
5. Greater coherence in supply chain communication practices within a sector or even across different sectors will lead to greater efficiency and effectiveness in achieving CiP goals. Substantial divergences in CiP tools and processes will lead to unnecessary burdens in CiP communication.

Potential advantages of the Chemicals in Products Programme

For Industry	For other Stakeholders
Major cost savings in the supply chain caused by the implementation of sector wide approaches using standardized and automated methodologies	Product designers are better informed of chemical content issues
Legislators and non-governmental organisations come to appreciate the sector's compliance processes	Waste management activities can be guided
In case of new substance obligation, the sector has the possibility to take the necessary countermeasures in time	Increased access by Governments to chemicals in products information
Facilitate supplier compliance	Non-governmental organizations have increased access to CiP information
Opportunities for innovation and green chemistry	
Individual customer requests can be satisfied with reliable answers	

Table 1: Extract of Box 2 in the [Guidance for stakeholders on exchanging chemicals in products information](#)

Features of Supply Chain Communication- exchanging Product Information (8)

1- Degree of Information Disclosure

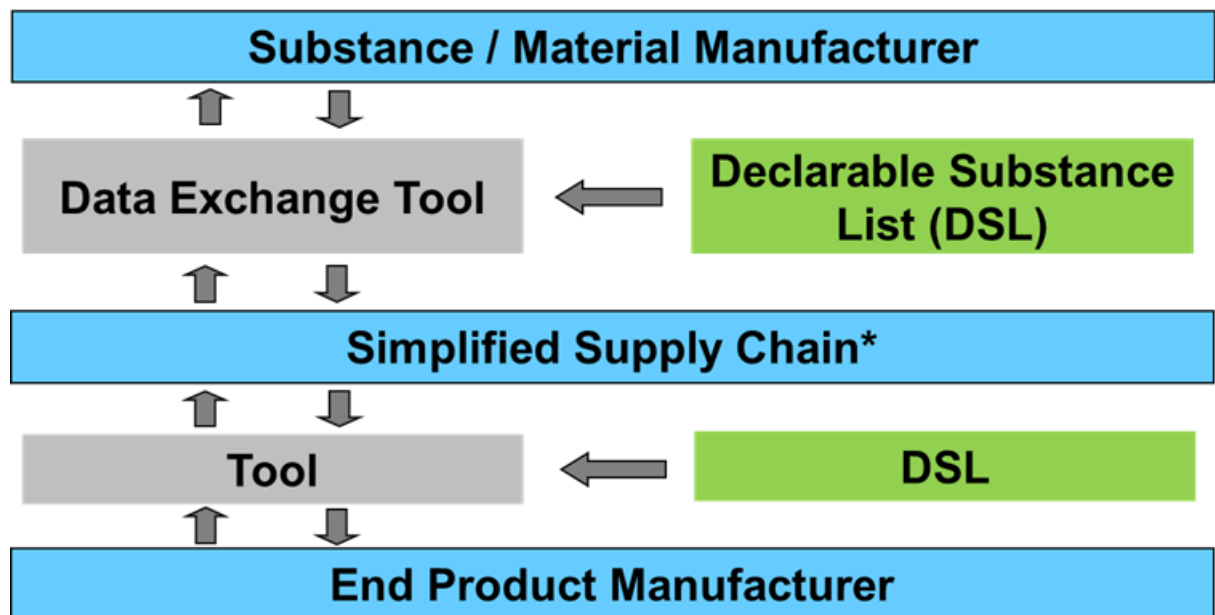
- Chemical information shared with supply chain partners can range from confirmation that the relevant product does not contain a specific priority substance(s), to information on the presence of compliance-relevant ingredients, to the disclosure of all ingredients.
- The requirement to provide information on a specific ingredient can vary from listing only intentionally added components (absolute concentrations, only concentrations above certain (legal) thresholds or concentration ranges) to listing all components in the formulations, including impurities of unintentionally contained substance above detection limit. It should be noted that such unintentionally contained substances are often generated during the upstream usage or degradations / ageing processes of a substance/material; this information is mostly available neither to the material nor to the article manufacturer. The range of information shared along with supply chain partners is conditional on needs and dialogue between suppliers and customers.
- Complex products usually result in complex data/information which is often difficult to collect, communicate and appropriately interpret.
- Cost-benefit analysis is a useful tool that can be applied to help define the appropriate levels of details/data needed to achieve a specific objective and that are realistic.
- Different criteria can be defined, which specify the information that can be declared confidential. Substance-related CBI can be exempted from disclosure in cases where these substances are neither regulated, nor is CBI about this substance required for the safe handling of products. Otherwise, these substances are necessary to be disclosed.
- No relevant information is withheld (see principle 2)
- The more complete the information provided in a communication tool, the easier it is to update/maintain such information in case of changes of legal requirements or product compositions.

2- Management of Supplier-Customer Relationship – The CiP tool

- A means for information exchange between supplier and customer could be via a tool, preferably an IT application with a defined data exchange format or alternatively a standard that describes minimum requirement/information/quality needed.
- Efficient information exchange tools typically include a function where standard formats can be imported from, and exported to other applications/tools. This allows an industry standard tool to interface with internal company tools / processes.
- The tool provider can offer to gather individualized information for the users (e.g. information on company-specific restricted substances lists).
- The tool shall facilitate information exchange between the customer and his/her respective supplier. Alternatively, the tool can use the information provided by all suppliers to build a database of information to respond to the information needs of all customers.
- The tool can share all relevant information provided by the supplier to the supply chain, and may extend to the end consumer and other stakeholders. Alternatively, the tool can share only limited parts of the information, e.g. the result of an evaluation.
- It is important to include communication requirements on chemicals in products into supplier contracts, customer standards or other relevant documents to ensure that all parties are complying with their obligations and meeting expectations.

3- Scope of Product Evaluations

- The functionality of a tool can be limited to the exchange of full or partial product composition information. Additionally, evaluations of the product against certain defined standards could be included. This includes the compliance to regulations restricting the content of specified substances, compliance to regulations which relate to the origin of certain substances (e.g. as conflict minerals) or the compliance to use restrictions (which takes the intended use of the product into account).
- One reasonable approach for defining the scope of information that needs to be included in the tool is through the development of a Declarable Substance List (DSL), which is continuously updated to meet legislative changes. The criteria to list substances can vary depending on the expected purpose of the CiP information. The most commonly used criteria are:
 - legally restricted substances
 - substances being legally restricted and also being in the regulatory pipeline
 - selecting substances based on their hazard characteristics
- Detailed description can be found in the points 9-16 of the [Guidance for stakeholders on exchanging chemicals in products information](#).
- The tool should have the capacity to at least communicate information on all DSL-Listed substances (See figure 1). Both list and tool can be provided from the same or different sources.



* For complex products, supply chains may generate Billions of CiP communications

Figure 1: Exchange of information in the Supply Chain via a tool in combination with a Declarable Substance List
Should be "...supply chains may generate billions..."

- The scope of the tool needs to be clearly defined, i.e. which substances contained in the final product are considered.
- Product assessment against legal requirements should be performed using transparent systems and processes.

4- IT Security

- The security and protection of data is one of the major pre-requisites for a broadly accepted and used tool.
- Data security has to be ensured according to the latest requirements/ rules. Secure systems are more likely to be accepted/ used by industry to share the necessary amount of data.
- A wide range of solutions exist to protect the shared information from access by non-authorized third parties.
- Clarity is needed about who has access to specific information and what are the accepted usages of the reported data.

5- User Friendliness

- The tool should be user-friendly, limit the manual workload associated with sharing information and be secure and stable. The tool preferably should allow mass-uploads of information on multiple products, and be able to provide for interfaces to companies' product databases e.g. Product Data Management (PDM) systems or to other available tools for information exchange.
- The use of the tool should be facilitated by using widely recognized unique identifiers for products and substances, e.g. part numbers and CAS numbers.
- Support can be provided to the users through a help-desk or via online manuals. The information might be available in different languages.
- Multilingual property of the tools user interface is essential for international supply chains.

6- Change Management and data ownership / responsibility

- Most data are available from product (material or article) manufacturers: it is recommended to collect the relevant data along the supply chain. Changes / updates should be made downstream from chemical industry via their direct customers to the final producer of the product
- Various mechanisms can be installed to ensure that the information passed along the supply chain is correct and up-to-date.
- For liability reasons and to ensure data quality it is generally the responsibility of the data generator (=data owner) to update any information as soon as changes occur.
- To generate high quality data and to make sure that such data is always updated in case of change of product or legal requirements on product content [or production processes]. In any case, the responsibility for data generation and maintenance should be clearly defined within and between companies / organisations.
- The tool could allow for an automatic information flow through the supply chain when a regulatory change occurs. So-called "fast track updates" to automatically update already reported data throughout the complete supply chain have shown to be most efficient to guarantee current and timely information. Data ownership principles however have to be carefully considered.
- Regulatory information, which might be part of the embedded communication process in the tool, are constantly subject to change. The tool should foresee notifications when needed and clear procedures to all suppliers for updates to information. The responsibility to adjust regulatory information, such as declarable substances lists, can be with the tool provider, the customer or the supplier of information.
- For checking the correctness of reported information, the receiver of the data can apply different strategies. For the reason that the receiver often is not having detailed knowledge to completely check the reporting, a due diligence based approach has proven to be most efficient.

- Changes to the data that are included in the tool should be communicated to the appropriate customers.
- The objective of the Declarable Substance List as well as of the related processes and tools is to ensure compliance of products at the time when they are being placed on the market. When developing / implementing a tool, it should be considered that retroactive legal /regulatory requirements may have a disproportionate impact on provision of necessary information for complex and durable/ long lasting products.
- A transparent process has to be defined between all actors of the supply chain on the maintenance of legacy data.
- Protection of confidential business information shall be ensured as a prerequisite for effective and trustful exchange of information and information changes along the related supply chains.

7- Process Transparency

- Relevant information on the functionality of the tool and legal liabilities of the stakeholders should be made available e.g. on the tool provider's homepage or can be provided upon request to interested stakeholders.
- The intended utilisation of the collected data should be also made available.

8- Involvement of Supply Chain/Industry in the Tool Development Process

- Different aspects such as rapidly changing regulatory requirements might require future changes to supply chain communication and communication tools. The insights and the particular information needs of all stakeholders in the supply chain should be sought when developing the tools.
- Within a company the implementation of a CiP solution needs support from different organisations which includes the Top Management, Quality, Purchasing, Product Development, IT as well as the Production Sites.
- All relevant stakeholders such as tool providers, supply chain representatives and products manufacturers should be part of this development process in order to help standardization and making data easily accessible avoiding manual maintenance (e.g. DSL per industry sector).

Definition of CiP Information for the different stakeholder

- When collecting and disseminating chemicals in products information, it is important to consider the audience, relevance of data, and intended use. The CiP stakeholder composition is often quite broad, with differing information needs (see [Figure 1 in Guidance for stakeholders on exchanging chemicals in products information](#)).
- In order to protect CBI, to avoid an overload of irrelevant information or to enable recipients of products to get what they need, only "relevant information" is to be provided. The CiP program defines "relevant information" broadly as "the information that the recipient needs to make an informed purchase or chemicals management decision or action". For information to be relevant it must be pertinent (the recipient can use the information to inform actions) and it must be in a usable format i.e. it must be accessible, clear and understandable to that stakeholder. Defining what is "relevant" also involves specifying the intended use of the information, which itself depends on the level of the recipients' need or desire to act upon the "chemicals in products information."