GREEN CHEMISTRY & COMMERCE COUNCIL

JULY 2021

GC3 RECOMMENDED FRAMEWORK FOR INGREDIENT DISCLOSURE FOR ARTICLES

PROJECT GOAL

Given the GC3's focus on fostering value chain collaboration—and the critical importance of understanding the chemical composition of products to develop safer, more sustainable chemistries—the GC3 works to create frameworks to facilitate better communication across the supply chain about product ingredients.

Because of recent regulation and market pressure, there is increased transparency about the chemical ingredients in formulated products such as personal care and cleaning products. However, a framework for consistently sharing ingredient information in article categories such as furniture, home décor and office products does not exist, despite increasing consumer and market pressure to understand the chemical ingredients in these products. In addition to customer demand, other drivers for increased transparency about chemical ingredients in articles include new regulatory requirements in the EU and US[1] and ongoing pressure from environmental NGOs.[2]

GC3 member retailers are working to implement chemicals policies and strategies that require information about chemicals in articles to enable informed decision making about the products they source and sell. GC3 member suppliers recognize the need for sharing this information with their business customers but are understandably concerned about data security and the level of effort required to supply these data. So, the GC3 undertook this project to develop an initial framework for article ingredient disclosure that delineates a common set of data elements to include. This framework is designed to help guide communication and facilitate agreements between retailers and suppliers, as well as harmonize retailers' requests of suppliers over the near and long term, so suppliers get more consistent requests for specific data elements. It is hoped that this framework can streamline and improve the efficiency of responding to these requests.

This project is not designed to:

- determine whether full materials disclosure or disclosure to a list of priority chemicals is required. Retailers and suppliers will determine this in their one-on-one agreements.
- determine which product categories are included. Each retailer, based on its respective priorities, will determine this in one-on-one discussions with its suppliers.
- create a single database or system that suppliers will report into. The particular technology solution adopted to share chemical ingredient information between a supplier and a retailer will be established in their one-on-one agreements.

BACKGROUND

In June 2019, the Green Chemistry & Commerce Council released a statement developed by its Retailer Leadership Council outlining chemical functions and priority product categories where innovation in safer alternatives is needed, as well as a road map to encourage improvement in supply chain and public transparency of chemical ingredients in consumer products. The RLC Statement on Chemical Innovation Priorities and Transparency Road Map builds on earlier work (including the Joint Statement on using Green Chemistry and Safer Alternatives to Advance Sustainable Products). The RLC Statement helps to implement several key elements of the Joint Statement, including goal setting and transparency.

1 See for example, the SCIP database in the EU and new regulatory requirements in California for cosmetics and menstrual products.

2 See for example, Mind the Store.

To move the Transparency Road Map forward, in the fall of 2019 the RLC developed a draft proposal to suppliers on providing chemical composition information for articles. This proposal used prior GC3 efforts on this topic as a foundation.[3] The GC3 shared the draft proposal with a small group of suppliers in the spring of 2020 to get initial feedback and then shared the proposal with the GC3 Supply Chain Working Group (SCWG) in May 2020.

The SCWG provided feedback throughout the summer of 2020 and several member suppliers participated in a pilot data collection exercise in the fall of 2020 to test the draft framework and identify issues for discussion. A formal convening of the RLC and SCWG occurred monthly from December 2020 to March 2021 to discuss data security, confidential business information, whether to align definitions with regulations, reporting threshold, level of detail required (particularly regarding function of ingredient), frequency of updating composition information, providing data on representative versus exact formulations. The framework described below reflects the input received from these suppliers.

DATA ELEMENTS AND FORMAT

DATA FIELD	FORMAT
PRODUCT INFORMATION	
Product Category	
Product Description	
Product Identifiers	• Product name • Global Trade Item Number (GTIN)

COMPONENT INFORMATION[4]	
Component Name	
Component Weight	

CONSTITUENT INFORMATION[5]	
Constituent Name(s) — for each component/part or material	• Proper name of ingredient
CAS Number	• CAS Number up to 10 digits
Constituent Weight — minimum	• Percentage
Constituent Weight — maximum	• Percentage
Constituent Function[6]	

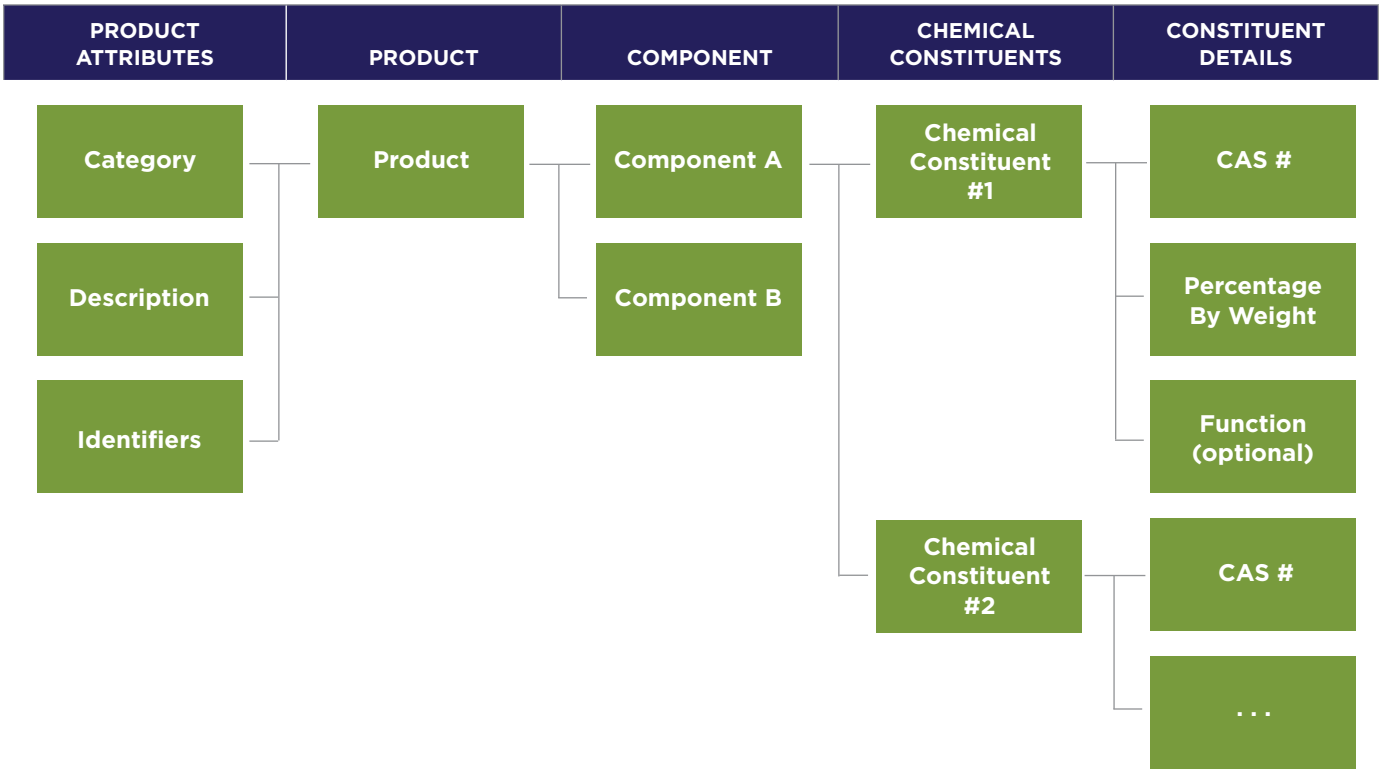
3 Green Chemistry & Commerce Council. Meeting Customers' Needs for Chemical Data: A guidance document for suppliers. 2011.

4 If item is made of components, information for each component.

5 Within each item/component, information for each chemical constitutent.

6 Optional but encouraged to share information on function to understand functional need for chemical and identify alternatives.

DATA ELEMENTS TO BE REPORTED



GUIDANCE FOR REPORTING

Intentionally added ingredients: Suppliers are asked to report on intentionally added chemical constituents.

Order of contents: Content is to be reported in descending order of quantity.

Confidential Business Information: CBI can be masked. For constituents that are CBI, suppliers are asked to share hazard characteristics (as defined by REACH for a Substance of Very High Concern (SVHC)) and are encouraged to share % weight of CBI in product.[7]

Weight of constituent/component: Suppliers are asked to provide percentage by weight for each chemical constituent (range is acceptable). Weight of each component is to be included so that total weight of chemicals in product can be determined.

Function: It is optional but encouraged to include information on function of chemical ingredients in product.

Reporting threshold: Reporting threshold is 100 ppm per component; suppliers are encouraged to report all intentionally added ingredients including those present below 100 ppm.

Reporting on representative versus exact composition: For articles that have the same composition for most elements of the product but differ in chemicals associated with certain elements such as color, fragrance, fabric, etc., the chemicals that are common to all

7 SVHCs are defined as:

- Substances meeting the criteria for classification as carcinogenic, mutagenic or toxic for reproduction (CMR) category 1A or 1B in accordance with the CLP Regulation.
- Substances which are persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) according to REACH Annex XIII.
- Substances on a case-by-case basis, that cause an equivalent level of concern as CMR or PBT/vPvB substances.

https://echa.europa.eu/substances-of-very-high-concern-identification-explained

products in this category can be input once but any unique chemicals that are used to differentiate the product by color, fragrance, etc. should be reported. This approach can be accomplished with a technology solution.

Unintentionally added ingredients/impurities/contaminants: It is optional but encouraged to report on unintentionally added constituents/contaminants/impurities if known, and identify these constituents as such.

Frequency of reporting/updating information: Suppliers are asked to report information on chemical ingredients when:

- A new product is introduced
- New ingredients or materials are added to or modify existing products

In addition, suppliers are asked review information biannually and report any change in composition, including the date of this change.

Definitions

Article: an object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition (as defined by REACH).

Chemical composition: complete list of intentionally added constituents and impurities/contaminants present in the final product.

Component: part of an article; a part that combines with other parts to form an article (e.g., components of an electronic product).

Confidential Business Information (CBI): broadly defined as proprietary information, considered confidential to the submitter, the release of which would cause substantial business injury to the owner. Health and safety studies, information from health and safety studies, and certain other information may not be protected as CBI under TSCA.

Intentionally added constituent: anything deliberately added to a material, component/part or product where its use in the formulation or continued presence in the finished article is desired to provide a specific characteristic, appearance or quality OR anything added in manufacturing where some or all remains in the final product (e.g., a catalyst or solvent carrier)

Impurity/contaminant: unintentionally added chemical ingredients that are present in the final product, including residues, catalysts, reaction by-products, residual solvent carriers, and unreacted raw materials

Trade Secret: information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

EXAMPLE: DATA ELEMENTS FOR OFFICE CHAIR

Note: This example is hypothetical and is not based on an actual chair.

Potential Ingredients of Concern in Chair Components

- **Cushion**
  Potential for flame retardants
- **Fabric**
  Potential for flame retardants, VOCs, water and stain repellents, anti-microbial coatings
- **Plastic Parts**
  Potential for plasticizers, heavy metals (with recycled plastics, additional concerns, e.g., flame retardants), glues/adhesives, blowing agents
- **Wood Parts**
  Potential for VOCs in glues/ adhesives, formaldehyde emissions
- **Coatings**
  Potential for use of heavy metals, PTFE
- **Casters**
  Potential for use of leaded steel

PRODUCT INFORMATION	
Product Category	Office Furniture
Product Description	Office Chair
Item Name	“Upright” Office Chair
Item Number	###

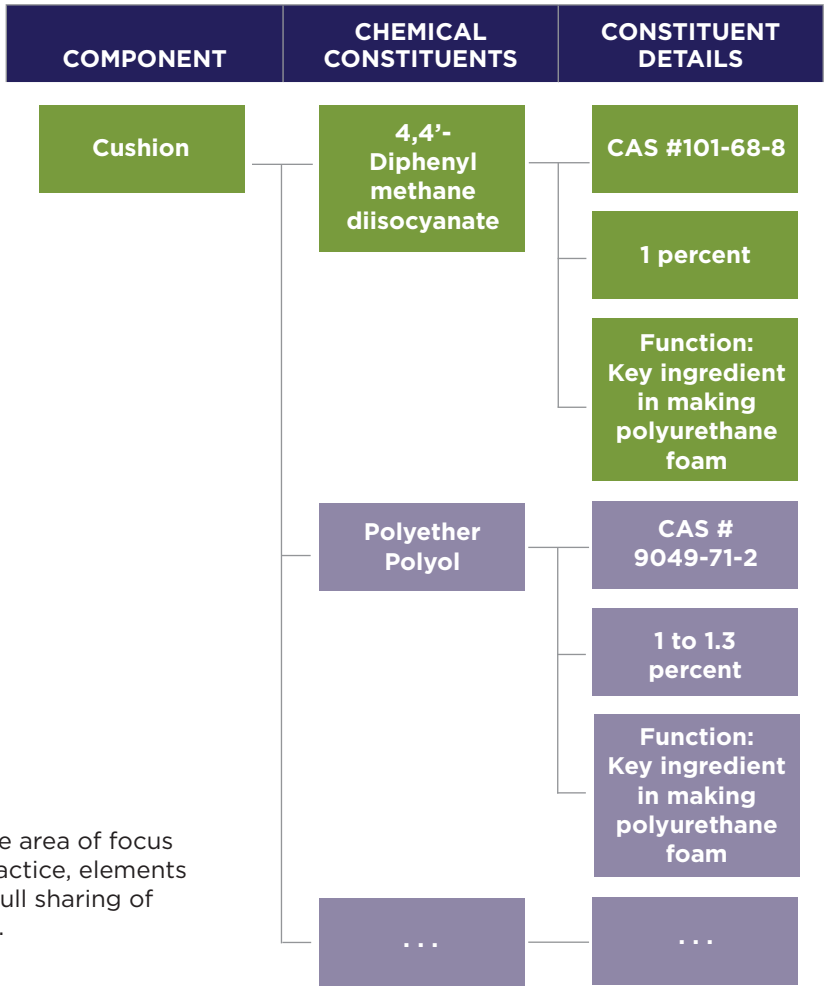
Example Component

PRODUCT	COMPONENT
Office Chair	Cushion
	Fabric
	Seat Frame
	Base
	Arms
	Control
	Casters

COMPONENT INFORMATION	
Component Name	Cushion (Polyurethane Foam)
Component Weight	10 percent

Note: Elements in green represent one area of focus for the purpose of this example. In practice, elements in purple would also be reported for full sharing of chemical composition of this product.

Example Cushion Constituents



Note: Elements in green represent one area of focus for the purpose of this example. In practice, elements in purple would also be reported for full sharing of chemical composition of this product.

CONSTITUENT INFORMATION	FORMAT
Constituent Name(s) — for each component/part or material	4,4'-Diphenylmethane diisocyanate
CAS Number	101-68-8
Constituent Weight — minimum	1 percent
Constituent Weight — maximum	1 percent
Constituent Function	Diisocyanate for polymerization reaction for PU foam

Note: Additional example constituents for the cushion are included in the table on the next page.

EXAMPLE: DATA ELEMENTS FOR OFFICE CHAIR — CUSHION COMPONENT

DATA FIELD		FORMAT
PRODUCT INFORMATION		
Product Category		Office Furniure
Product Description		Office chair
Product Identifiers	Item Name	"Upright" Office Chair
	Item Number	###

COMPONENT INFORMATION	
Component Name	Cushion (Polyurethane Foam)
Component Weight	10 percent

CONSTITUENT INFORMATION FOR CUSHION COMPONENT

CONSTITUENT NAME(S)	CAS NUMBER	CONSTITUENT WEIGHT		CONSTITUENT FUNCTION
		MIN.	MAX.	
Polyethylene/polypropylene glycol trimethylolpropane ether	52624-57-4	3.0%	4.0%	Polyol for polymerization reaction for PU foam
Polypropylene glycol, polymethylene-polyphenylene isocyanate polymer	53862-89-8	1.3%	3.0%	Polymeric isocyanate for polymerization reaction for PU foam
Isocyanic acid polymethylenepoly-phenylene ester/PMDI	9016-87-9	1.0%	1.3%	Polymeric isocyanate for polymerization reaction for PU foam
Polyoxy(methyl-1,2-ethanediyl)	9049-71-2	1.0%	1.3%	Polyol for polymerization reaction for PU foam
4,4'-Diphenylmethane diisocyanate/MDI	101-68-8	1.0%	1.0%	Diisocyanate for polymerization reaction for PU foam
Tris(1,3-dichloropropan-2-yl) phosphate	13674-87-8	0.3%	0.4%	Flame retardant
2-Ethylhexanoic acid	149-57-5	0.01%	0.1%	Catalyst for polymerization reaction for PU foam

GREEN CHEMISTRY & COMMERCE COUNCIL

The Green Chemistry & Commerce Council (GC3) envisions a global economy where all chemicals, materials and products are safe and sustainable from creation, disposal, and reuse. Started in 2005, the Green Chemistry & Commerce Council drives large scale commercial adoption of safer, sustainable, high-performing chemical solutions by:

- Fostering value chain collaboration
- Cultivating first-movers
- Convening industry decision-makers to secure major commitments
- Creating a supportive policy environment

For more information, visit www.greenchemistryandcommerce.org.