Textile Exchange

Inventory Submission Guidance to Textile Exchange's LCI Library

Contents

Introduction

This document provides guidance for submitting data to the Textile Exchange Life Cycle Inventory Library (LCI library). Data providers should consult this document to ensure Data Submissions are completed correctly. This guidance document contains the following:

1. An explanation of the difference between the two types of submissions (modeling parameters and elementary flows).
2. A walk-through of each section of the submission templates, explaining the data fields required.
3. Guidance about what data to include in each of the two types of submissions.
4. A list of relevant terms and definitions.

Please note that for your data submission to be reviewed you should provide the following:

- The completed submission template
- The accompanying Life Cycle Assessment (LCA) report

The LCA report will not be included in the LCI Library, it will be used for review/sense checking purposes only.

Once completed, both the data submission and the LCA report should be sent to impactdata@textileexchange.org.

Types of submissions and use

The Textile Exchange LCI library makes two types of data available for download: (1) modeling parameters, to allow users to base their own model on the downloaded parameters, and (2) elementary flows, to allow users to calculate different impacts directly from the data from the library. Data providers can submit either or both types of data. To make each type of data available, data providers are encouraged to submit two types of results from their study: modeling parameters and elementary flows. Please note that each type of submission must be done independently, meaning one template should be submitted for modeling parameters and one template for elementary flows.

1. **Modeling parameters:** product, material, or energy entering or exiting a system being studied. Modeling parameters include any relevant input or output used to model results for one specific activity, including intermediate flows such as electricity use, fuel used onsite, fertilizer, and pesticides. This submission may also contain a combination of intermediary flows and elementary flows, depending on how the activity was modeled by the practitioner.

2. **Elementary flows**: material or energy entering the system being studied that has been drawn from the environment without previous human transformation, or material or energy leaving the system being studied that is released into the environment without subsequent human transformation. Textile Exchange has a master list of elementary flows that is included in the library. Elementary flows that are not in that list will be filtered out.

Each submission may contain one or more dataset relevant to the study.

Submission sections

Each submission contains 2 parts: general information in one tab, and the datasets in one or more tabs depending on the number of datasets included.

For example, in a study of organic and conventional cotton, the general information tab will include information applicable to both cultivation types, and remaining tabs will include specific information for each dataset.

Submission Tab 1: Submission Template

This tab contains background information describing the study that is shared among all the datasets submitted. It has two sections:

1. **General information** relevant to the study including name, author(s), year, institution, commissioner (when applicable), citation, and type of submission. This information will be part of the library's records. The type of submission will inform the section that the datasets will be entered in (modeling parameters or elementary flows), and the filters that will be applied.

General Information

Name of the study	LCA of organic and conventional cotton
Authors	Doe, Jane
Year	2019
Authors institution(s)	
Commissioner (if applicable)	
Citation	Doe, Jane. LCA of organic and conventional cotton, 2019
Type of submission	Elementary Flows
	Please refer to the LCI Master List

2. **Submission information** contains information describing all the datasets within the submission and won't be part of the library's records. They are used to facilitate the review of the submission. It includes:

    a. **Number of materials:** The number of different material names that appear in the dataset tabs to follow. The example includes two materials – conventional cotton and organic cotton.

b. **Number of datasets:** The number of different activities, corresponding to the number of dataset tabs in the submission. The example contains four datasets – two geographies for each of the two materials.

c. **Number of geographies:** The number of different geographies (global region, country, or region within country) that appear in the dataset tabs to follow. The example contains two geographies.

d. **Datasets included**: The material and geography for each of the datasets in the submission.

e. **Type of allocation**: The allocation method that was used in the study.

Submission information

	Response
Number of materials	2
Number of datasets	4
Number of geographies	2

Datasets included (expand as needed)

Materials assessed	Geographies assessed
conventional cotton	India
organic cotton	India
conventional cotton	Brazil
organic cotton	Brazil

Type of allocation	Economic

Submission additional tabs: Dataset(s)

Each dataset tab contains information describing the specific dataset. Each submission tab contains three sections:

1. Material and Reference Product

The top of each dataset tab includes descriptive information about the activity described by the dataset.

a. **Material name:** describes the broad material type that was studied. It is used as the main search criteria in the database to differentiate between types of materials. Examples: cotton, polyester, and hemp.

b. **Reference product:** describes the product the study bases its results on. It should be specific. It can provide information about the form of the material that is produced. Examples: ginned cotton lint, scrunched hemp fiber.

c. **Reference product amount and unit:** together, these two inputs tell the quantity of the reference product the results apply to. Results are often calculated for a reference product amount and unit of 1 kg, so an example data point for CO_2 emissions is interpreted as kg CO_2 emitted per 1 kg of material produced.

d. **Check:** Finally, this section contains a check, combining the data provided in several cells to ensure the resulting reference product description makes verbal sense. Please read this box to ensure that it accurately describes the product that results from the activity studied and the quantity of product for which results were calculated.

1. Material and Reference Product			
1.1 Mandatory	Material Name	Cotton	
1.2 Mandatory	Reference product	Ginned cotton lint	
1.3 Mandatory	Reference product amount	1	
1.4 Mandatory	Reference product unit	kg	
1.5 Mandatory	Is this your reference product (yes/no)	**'1 kg of Ginned cotton lint'**	IF NOT, PLEASE MODIFY ANSWERS TO 1.2, 1.3, and 1.4!
		Yes	

2. Dataset Scope and Geography

The next section includes information about the scope and geography the dataset applies to.

a. **Scope of the dataset:** refers to which stages of the product's lifecycle were included in the study. Examples include raw material extraction, and cotton cultivation. Details of the farming practices/systems, such as conventional or organic, should be included here, if further explanation is needed please use the comments box. Please note that only scopes up to before spinning are currently accepted into the database.

b. **Check:** Together with the information provided in the Material and Reference Product section, the scope of the dataset leads to a complete description of the activity under study. Please confirm by reading this box that it accurately describes the activity studied.

c. **Geography (optional)**

   i. **Global region** should be used when the data applies to a specific part of the world but broader than a country. For example: Europe, South Asia.

ii. **Country** is used when the study pertains to data from a specific country.

iii. **Region within country** is used for subdivisions within countries. Depending on the country, this may be a state, province, or other division.

d. **Any additional details** can be provided in the last cell if there is any other information pertinent to the dataset that does not fit into the other sections.

2. Dataset Scope and Geography

2.1 Mandatory	Scope of the dataset	Production (conventional cotton cultivation)	
2.2 Mandatory	Is this the activity you want to record (YES/NO)	**'1 kg of Ginned cotton lint, Production (conventional cotton cultivation)'**	IF NOT, PLEASE MODIFY ANSWERS TO 1.2, 1.3, 1.4, and 2.1!
		Yes	
2.2 Optional	Geography: global region		
2.3 Optional	Geography: country	Brazil	
2.4 Optional	Geography: Region within country		
2.5 Optional	Any additional details to add?		

3. Data

Numerical results:

The numerical results of the study are provided in this tab.

a. #Number of the value: should be sequential counting up from 1 for the values in a single dataset.

b. **Input/output:** records whether the value in that row is an input or output to the process. Inputs are materials or energy consumed for the purpose of completing the activity and outputs are released to the environment.

c. **Compound or material:** the main identifier of the type of value recorded.

d. **Amount:** the value of the data submitted. This must be a real number.

e. **Unit:** the unit of measure for the amount of compound or material that is entered. This is the numerator of the overall result, such as the kg of compound 1 released per kg of cotton produced.

f. **Compartment:** only relevant for outputs. This records whether the compound or material was released to air, water, soil, or it may be left blank.

g. **Comment:** a freeform column for entering any additional information about the value that may be relevant.

Data in Modeling Parameters Submission

Modeling parameters submissions should include any inputs or outputs that are used to model a process. Some examples of inputs and outputs are listed below, but this list is not exhaustive, and any material or compound used to model the process studied should be included in the submission.

a. **Examples of inputs:** electricity, diesel, land use, fertilizer, water, silkworm eggs, formalin, hemp seed, detergent.

b. **Examples of outputs:** carbon dioxide, nitrogen oxides, ammonia, nitrate, phosphate, NMVOCs, benzene, nitrous oxide, zinc, particulate matter.

3. Data

#	input/output	compound or material	Amount	unit	Compartment (output only) air, water or soil	Comment
1	Input	compound 1	7	kg		
2	Input	compound 2	6	kg		
3	Input	product 1	5	m3		
4	Input	product 2	4	m3		
5	Output	compound 3	3	kg	Air	
6	Output	product 3	2	m3		

Data in Elementary Flows Submission

Elementary flows submissions should include flows present in the master list, available by request from Textile Exchange. This list has been created to reflect elementary flows required by commonly used LCA methodologies.

For some flows, several names are used by different methodologies. If one of these alternate names is included in your dataset then it will be translated to the name indicated in Textile Exchange's master list before being inserted into the data library.

If your dataset includes an elementary flow that is not in the master list, it may be because it is not used in the common LCA methods that were used to make the list. If you have an elementary flow that is used in common LCA methods (such as CML, USE-Tox, ReCiPe) that you don't see in the master list, please contact Textile Exchange.

3. Data

#	input/output	compound or material	Amount	unit	Compartment (output only) air, water or soil	Comment
1	Input	compound 1	7	kg		
2	Input	compound 2	6	kg		
3	Input	compound 3	5	m3		
4	Input	compound 4	4	kg		
5	Output	compound 5	3	kg	Air	
6	Output	compound 6	2	kg	Water	
7	Output	compound 7	1	kg	Soil	
8	Output	compound 8	10	m3	Air	

Terms and definitions

- **Modeling parameters:** product, material, or energy entering or exiting a system being studied.
- **Elementary flows:** material or energy entering the system being studied that has been drawn from the environment without previous human transformation, or material or energy leaving the system being studied that is released into the environment without subsequent human transformation.[1]
- **Submission:** information resulting from a single study, but may include multiple datasets if multiple material types or means of production were investigated in a single study. The submission should be in one Excel file and have a single citation. A submission must be either modeling parameters or elementary flows type.
- **Dataset**: information regarding a single activity (reference product and scope), including information describing the activity and the modeling parameters or elementary flows values. A dataset is represented by a single tab in the submission file.

[1] International Organization for Standardization. (2006). Environmental management — Life cycle assessment – Requirements and guidelines (ISO Standard No. 14044:2006). https://www.iso.org/standard/38498.html

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