

LCI Review report (reviewed against "ILCD Data Network - entry-level requirements")

Draft template

Table 1: General review reporting items

REVIEW REPORTING			
General information			
Data set name	Terephthalic acid, purified, at plant		
Data set UUID and version number	To be determined		
Data set locator (e.g. Permanent URI, URL, contact point, or database name and version, etc.)			
Data set owner	Committee of PET Manufacturers in Europe (CPME) / PlasticsEurope		
Review commissioner(s)	PlasticsEurope / Committee of PET Manufacturers in Europe (CPME)		
Reviewer name(s) and affiliation(s), contact	Manfred Russ DEKRA Consulting GmbH		
Review type applied	Independent external		
Date of review completion (DD/MM/YYYY)	15/10/2014		
Reviewed against / Compliance system name	ILCD Data Network - Entry-level requirements		
Reviewer assessment:			
Aspect	Yes	No	Comments
Quality compliance (aspects of ISO 14040 & 14044) fulfilled (see table 2)	X		
Method compliance (as in ISO 14040 & 14044) fulfilled and documented in data set	X		
Nomenclature compliance (see table 3) fulfilled	X		
Documentation compliance (see table 3) fulfilled	X		
Review compliance (Independent external review OR independent internal review + review report) fulfilled	X		
Overall compliance with ISO 14040 & 14044	X		
Overall compliance with "Compliance system"	X		
Date, location, reviewer signature	Stuttgart, 15/10/2014		

Table 2: Specific/detailed review reporting items for LCI data set: Quality compliance (ISO 14040 & 14044). Please note that for aggregated LCI result data sets, this includes key processes in the background system.

ITEMs	Comments
<p>Time-related coverage/representativeness:</p> <p>“age of data and the minimum length of time over which data should be collected”</p> <p>“qualitative assessment of the degree to which the data set reflects the true population of interest”</p>	<p>Very Good</p> <p>Foreground: 12 month averages representing the year 2011, 2012 and 2013 (different reference years for different plants).</p> <p>Background: 2009 – 2011. Electricity grid-mixes from 2011, exception: transport data from 2000 – 2009</p> <p>Maximum temporal validity until end of 2017.</p> <p>(p.10)</p>
<p>Geographical coverage/representativeness:</p> <p>“geographical area from which data for unit processes should be collected to satisfy the goal of the study”</p> <p>“qualitative assessment of the degree to which the data set reflects the true population of interest”</p>	<p>Good</p> <p>European production average (data from 5 production sites in 5 countries from 5 companies).</p> <p>(p.11)</p>
<p>Technology coverage/representativeness:</p> <p>“specific technology or technology mix”</p> <p>“qualitative assessment of the degree to which the data set reflects the true population of interest”</p>	<p>Good</p> <p>Technology mix representing European production (see above).</p> <p>79% of the total European PTA production capacity in 2013 (EU27).</p> <p>The specific technologies of the PTA production of the European companies are considered (incl. both crude oil and natural gas route for production of aromatics).</p> <p>(p.9-10)</p>
<p>Precision:</p> <p>“measure of the variability of the data values for each data expressed (e.g. variance)”</p>	<p>Very Good</p> <p>Relevant foreground data is primary data, or modeled based on primary information sources of the owners of the technologies.</p> <p>(p. 11)</p>
<p>Completeness:</p> <p>“percentage of flow that is measured or estimated”; assessed on level of process</p>	<p>Good</p> <p>In general, the collected and applied data can be stated as complete, because no flows are omitted or substituted. However, for some production sites it was not possible to obtain detailed emission data due to site-specific measurement and recording practices. In order to compensate missing information on certain important inputs and outputs, average values (calculated based on the data reported by other production sites and weighted by product output) were used in cases where no data was given.</p>

ITEMs	Comments
	<p>For some commodities with a minor input per PTA output (acetic acid → total input less than 6 wt.-% per PTA output; NaOH, HCl → total input less than 2 wt.-% per PTA output; catalysts and other commodities → total input less than 0.4 wt.-% per PTA output) generic datasets from the LCA database Ecoinvent v 2.2 have been used. In Ecoinvent datasets, waste for recycling is generally cut off. Furthermore, expenses for capital equipment were not considered in this Eco-profile.</p> <p>(p.11, 14-15)</p>
<p>Consistency: “qualitative assessment of whether the study methodology is applied uniformly to the various components of the analysis”</p>	<p>Very Good</p> <p>To ensure consistency only primary data of the same level of detail and background data from the databases mentioned under ‘data sources’ were used. While building up the model, cross-checks concerning the plausibility of mass and energy flows were continuously conducted. The methodological framework is consistent throughout the whole model as the same methodological principles are used both in foreground and background system.</p> <p>(p.14-15)</p>
<p>Sources of the data; Appropriateness of use primary/secondary data source</p>	<p>The main data source was a primary data collection from European PTA producers, providing site-specific gate-to-gate production data for processes under operational control of the participating companies. Data concerning the feedstock, i.e. p-xylene, was taken from the recently published EPD and Eco-profile of BTX aromatics. Data for other upstream supply chains until the precursors are taken from various databases as indicated in the report.</p> <p>(p.11-12)</p>
<p>Uncertainty of the information (e.g. data, models and assumptions).</p>	<p>Variation of single data was not recorded. Variation of the model/dataset not applicable due to vertical average of production lines and technologies.</p> <p>Reliability of the collected primary data can be considered very high due to almost exclusively measured data across the entire sample. Furthermore, the background data can be considered very precise.</p> <p>(p.14-16)</p>
<p>Others</p>	

Table 3: Specific/detailed review reporting items for LCI data set: Nomenclature and Documentation

ITEMs	Comments
Nomenclature	
Correctness and consistency of applied nomenclature (Preferred use of ILCD flows etc.; Correct nomenclature of other flows; Exclusion of not permissible waste flows, sum indicator elementary flows etc.)	Yes – database format is aligned and compatible with ILCD requirements (consistent nomenclature) -- conducted spot checks on the LCI (xls and ILCD xml)
Documentation	
Appropriateness of documentation (see Document “Documentation of LCA data sets”)	Yes – meta-data completed and appropriate; documentation aligned with ILCD standards.
Appropriateness / correctness of documentation form (ILCD Format)	Yes – Database format is aligned and compatible with ILCD requirements (consistent format of meta-data and content) -- spot checks were conducted on dataset.