

System Certification Form 3 (F-12-01): Requirements for Product Environmental Data Integration System

No.	Title	Requirements		Explanatory notes
1	General requirements	1-1 General requirements	<p>1-1-1 The organization should establish, formulate in writing and enforce the integration system of product environmental data in compliance with the requirements provided in this form, as well as maintain and revise it by occasion demands. The organization should meet the following requirements.</p> <p>A) The top management of the concerned organization is responsible for establishing the policies and goals of the enforcement of Ecoleaf environmental labeling.</p> <p>B) The top management is responsible for appointing the supervisor in the management rank. The supervisor has the following responsibilities and rights, regardless of other responsibilities laid on the same person: To secure the establishment, enforcement and maintenance of the procedure necessary for the integration system of product environmental data. To collect information on how the integration system of product environment data is operated and if any improvement is necessary, while directing improvement in the case it is necessary. To ensure that the staff concerned with the system operation improve the awareness of Ecoleaf environmental labeling.</p> <p>C) For operating the integration system for product environmental data, the necessary procedure and its application to the organization should be defined.</p> <p>D) The Ecoleaf manual that contains the following items should be established and maintained: Applicable range of the system Documentation or the reference to the established processes of the system Description on the interrelationship between processes of the system</p> <p>E) To execute the works for Ecoleaf environmental labeling, skillful and experienced staff with competence for decision making should be defined and assigned, while providing relevant education and training to them. Internal inspectors (the inspector and the deputy inspector) qualified by the Ecoleaf secretariat should be assigned. (It is allowable that a person takes charge of the internal inspection of more than one integration systems for product environmental data.)</p>	<p>Essentials of the requirements in 1-1:</p> <p>Policy decision Documentation Construction (of the responsibilities, authorities and allotted duties) Revision 7 processes for the system Internal verification</p> <p>“Top management” is defined as managers of the department (of the business) subject to System Certification</p>

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2	Criteria of the requirements	2-1 Criteria for data collection and processing	2-1-1 Ecoleaf environmental labeling should be executed in compliance with PSC rules on the concerned product. 2-1-2 For the collection and processing of information/data required for the Ecoleaf environmental labeling, the prerequisites and criteria (scenario) of eco-impact calculation should be prepared, either in compliance with PSC rules or in the view of each concerned business.	
3	Data integration	3-1 Integration system for product information/data	3-1-1 For Ecoleaf environmental labeling, the data integration system should be constructed and maintained available for gathering the following product information/data with required precision ¹⁾ when the necessity arises ²⁾ , from reliable sources ³⁾ in view of perfection and representativeness: A) Quality of the material composing the product B) Mass of the material composing the product C) Information on processing/assembling the material composing the product D) Specifications of the product E) Configuration of the product See 7-2-2 “Data management.”	reliable sources: It is defined as the information on product design, or the information source exactly related to the information on product design. When the design/development data (which is proper to be used) are not available for output, Data A) and B) should be collected, based on the actual measurement of the product. In that case, the method and criteria applied to the data collection should be clearly provided. (The actual measurement is also related to the requirement #3 Measurement management.) when the necessity arises: This indicates when labeling is executed. The latest information should always be available for labeling. with required precision: The level (precision) of data on the material composing the product should be decided considering the ratio of eco-impact by the material to the total impact given by the product or in the stage. Additionally, other prerequisites, e.g. cutoff rules and the eco-impact by the data collection, should be also considered.

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3	Data integration		<p>3-2-1 Data integration of information on spent/exhausted substance on site To calculate the eco-impact throughout the product manufacturing, the data integration system should be constructed and maintained available for gathering necessary information/data, e.g. the type and amount of used energy/material, as well as the process flow. The system should collect data with required precision when the necessity arises, from reliable sources in view of perfection and representativeness.</p> <p>See 7-2-2 "Data management."</p>	<p>The following is the energy and material subject to data collection:</p> <ul style="list-style-type: none"> A) Buildings, workshops and the related utilities (e.g. electricity, gas and water supply) B) Raw materials and auxiliary materials (not composing the finished product e.g. solvent) C) Energy for facility operation (e.g. electricity and heavy oil) D) Other substances necessary for supportive works (e.g. transportation and communication)

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3	Data integration	<p>3-3</p> <p>Integration system for information/data on logistics/use/disposal and recycling</p>	<p>3-3-1: Integration of logistics data</p> <p>In the case the common intensity provided by the Ecoleaf secretariat is applied, the data integration system should be constructed and maintained available for gathering the following logistics conditions and data, related to the products as well as its accessories and maintenance parts. The system needs to collect data with required precision when the necessity arises, from reliable sources in view of perfection and representativeness.</p> <p style="padding-left: 40px;">Transportation means Transportation distance Loading rate</p> <p>In the case actual measurements of the product are applied, the data integration system should be constructed and maintained available for gathering the types and amounts of energy and material spent for the transportation of the products, as well as the accessories and maintenance parts. The system needs to collect data with required precision when the necessity arises, from reliable sources in view of perfection and representativeness.</p> <p>3-3-2: Integration of data on spent/consumed substance</p> <p>In the case actual measurements of the product are applied, the data integration system should be constructed and maintained available for gathering the conditions and data on energy and material (including the accessories and maintenance parts) spent when the products are used, based on the setup scenario. The system needs to measure or estimate data with required precision when the necessity arises, from reliable sources in view of perfection and representativeness.</p> <p>3-3-3: Integration of data on disposal/recycling</p> <p>In case actual measurements of the product are applied, the data integration system should be constructed and maintained available for gathering the conditions and data on energy and material spent for the disposal and recycling of the products (including the accessories and maintenance parts), based on the preset scenario. The system needs to measure or estimate data with required precision when the necessity arises, from reliable sources in view of perfection and representativeness.</p> <p>See 7-2-2 "Data management."</p>	<p>The following are samples of the requirements for setting conditions and collecting data on actual measurement:</p> <p style="padding-left: 40px;">In the case of actual measurement: Actual measurement should be provided with its clear evidence.</p> <p style="padding-left: 40px;">In the case conditions are setup: Conditions should be provided with clear bases.</p>

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4	Data processing	4-1 System for processing integrated data	<p>4-1-1: Processing of integrated data</p> <p>Data processing should be executed in accordance with the operation guidelines for Ecoleaf environmental labeling, with the information/data integration system: cutoff allocation is applied to the integrated information/data, and the appropriate intensity and characterization factor are chosen and applied based on the scenario preset by the data system. The system for preparing the following three sheets, which compose the labeling, should be constructed and maintained (Software may be a part of the system):</p> <ul style="list-style-type: none"> PEAD PEIDS Product datasheet <p>See 7-2-2 “Data management.”</p>	<p>The intensity and characterization factor are provided by the Ecoleaf secretariat in principle, while the organization is allowed to prepare original ones.</p> <p>The base and value of intensity independently developed by the concerned organization are subject to the verification (authorized by the judgment committee.)</p>
5	Measuring management		<p>5-1-1: Management of measurement and measuring devices</p> <p>The quantitative data on the product environment should be clarified, with developing requirements for the measurement. The required measurement device should also be specified. It is necessary to establish the process to ensure that the measurement is executable with the method available for keeping coherence with the measuring requirements.</p>	<p>In the case the concerned measurement device is qualified for ISO9001 and subject to ISO9001.7.6 “Control of surveillance devices and measuring devices,” the device is considered to meet the requirements for the measurement.</p> <p>Following is the assumed subjects of measurement in general:</p> <ul style="list-style-type: none"> Product Mass of the product and its components Site <ul style="list-style-type: none"> • Total electricity • Exhaust (SOX and NOX) • Drain (COD) Logistics <ul style="list-style-type: none"> • Fuel consumption Use <ul style="list-style-type: none"> • Consumed electricity

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6	Internal verification	6-1 Verification system for product environmental information/ data	<p>6-1-1: Internal verification Ecoleaf labeling for each product should be verified inside the concerned organization whether or not it meets the requirements. The internal system auditors (the auditor and the deputy auditor) should execute the internal verification by product with the following criteria:</p> <p>The Ecoleaf environmental labeling conforms to the corresponding product specification criteria (P.S.C.). The Ecoleaf environmental labeling conforms to the requirements established by the concerned organization. The Ecoleaf environmental labeling conforms to the guidelines for operating Ecoleaf environmental labeling.</p> <p>To operate the internal verification, the concerned organization should be careful to: Ensure that the election of internal auditors and the operation of internal verification are objective and fair. Keep the internal system auditors away from the labeling procedure. Provide the responsibilities and requirements of the auditors in the written procedure with regard to planning and operating the verification, as well as recording the results and maintaining the records (See 7-2-2 “Data management”). Ensure that the manager responsible for the verified sphere takes steps to remove the revealed disqualification and its cause without delay.</p> <p>The results of the verification should be worked up into a set of the verification documents, which are submitted to the Ecoleaf secretariat.</p>	<p>A set of the verification documents includes:</p> <ul style="list-style-type: none"> • PEAD • PEIDS • Product data sheet • Parts assembly drawing • Flowcharts (on stage flows/ production flows) • Break-down datasheets (1, 2 and 3) • Relevant accounts (used for inventory analysis) • Relevant accounts (used for impact valuation)

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7	Data (e.g. documents and records) management	7-1 Correction system for product environmental information/ data	<p>7-1-1: Correction of released data</p> <p>The system to observe and to detect the necessity of data correction concerning the following cases should be constructed, while setting the criteria for judging whether or not any correction is necessary. The system that executes the correction immediately when necessary should be also constructed.</p> <p>A) The data on a new product are changed from the released values based on the estimate (in the planning/design stage) yet on the market to the values acquired from the actual measurement afterward.</p> <p>B) Any change occurs in the data by some reason, e.g. modification of the production line.</p> <p>C) Any error or fault is found in the released data.</p> <p>D) The declarant of the Ecoleaf environmental labeling agrees with the correction responding to the complaint by a third party.</p> <p>E) Any other case excepting the above when the Ecoleaf secretariat approves the correction.</p>	A concrete method should be developed to observe the possibility of change in the conditions and base applied to the calculation of the initial data. The criteria for judging whether or not a correction is necessary should be also developed, to operate and maintain the correction system in compliance with it.

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7		7-2 Management of documents and records	<p>7-2-1: Management of documents</p> <p>The documents required for the data integration system should be managed. Among the documents, especially, the records should be managed in compliance with the requirements set in the “Management of records” below.</p> <p>The “written procedure” that regulates the required management for the following processes should be established:</p> <ul style="list-style-type: none"> A) The documents are authorized before the release, from the viewpoint of either appropriate or inappropriate. B) The documents are reviewed, and when necessary, updated and reauthorized. C) The distinction between an original document and its modification or revision at present is ensured. D) It is ensured that the appropriate version of the concerned document is available when and where it is necessary. E) It is ensured that the document is easy to be read and recognized. F) The documents prepared outside the organization are distinguished, and it is ensured the distribution of the documents is under control. G) Attention should be paid to ensure that abolished documents are not used by mistake. In the case an abolished document is used for some purpose, it should be distinguished from the ones in use. <p>7-2-2: Management of records</p> <p>The records should be prepared and kept, to show the evidence that the product fits the requirements and the data integration system is operated effectively. The records need to be readable and distinguishable. The “written procedure,” which regulates the required management for the discrimination, storage, protection, reference, storage term and abolition of the records, should be established:</p>	

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8		8-1 Ecoleaf labeling system	<p>8-1-1 The system of Ecoleaf labeling should be established as follows:</p> <p>Criteria Valuation criteria for labeling should be specified.</p> <p>System The top authority for labeling should be defined, while the division of the responsibilities and authorities for labeling are specified and controlled.</p> <p>Method The steps and media necessary for labeling should be clarified.</p> <p>See 7-2 “Management of documents and records” regarding the system maintenance and control</p>	A system that supports maintenance and control (especially when any change occurs in the system) of the whole proceeding of Ecoleaf environmental labeling, should be constructed.