

EPD PROCESS VERIFICATION REPORT

DNV Business Assurance (hereinafter "DNV") has been commissioned by

VALAGRO SpA

Zona Industriale

Via Cagliari, 1

66041 Atesa (CH) - Italia

to conduct a verification of the EPD Process Management System of the organization for the realization of Environmental Product Declarations (EPD) pursuant to the following International Standards:

- PCR 2010:20 ver. 3.0 Mineral or Chemical Fertilizers
- General Programme Instructions v. 4.0
- ISO 14025:2006 "Environmental labels and declarations – Type III Environmental declarations – Principles and procedures

The following issues have been checked during the verification

1	GENERAL REQUIREMENTS	MANDATORY / OPTIONAL	REFERENCE	DEVIATIONS FROM REQUIREMENTS	DONE
1.1	General requirements	M	GPI 7.5.4.1	None	√
1.2	Document requirements	M	GPI 7.5.4.2	None	√
1.3	Management responsibility	M	GPI 7.5.4.3	None	√
1.4	Provision of resources	M	GPI 7.5.4.4	None	√
1.5	Planning the EPD process	M	GPI 7.5.4.5	None	√
1.6	PCR/UN CPC development or status check	M	GPI 7.5.4.5.1.	None	√
1.7	Planning the LCA activity and development of EPDs	M	GPI 7.5.4.5.2.	None	√

2	OPERATIONS	MANDATORY / OPTIONAL	REFERENCE	DEVIATIONS FROM REQUIREMENTS	DONE
2.1	Collecting information	M	GPI 7.5.4.6.1	None	√
2.2	Operation of the LCA activity	M	GPI 7.5.4.7.1.	None	√
2.3	Operation of the EPD development activity	M	GPI 7.5.4.7.2.	None	√
2.4	Maintenance of the EPD during its validity	M	GPI 7.5.4.7.3.	None	√

3	PROCESS ASSURANCE	MANDATORY / OPTIONAL	REFERENCE	DEVIATIONS FROM REQUIREMENTS	DONE
3.1	EPD Process Assessment	M	GPI 7.5.5.1	None	√
3.2	EPD Management Review	M	GPI 7.5.5.2	None	√

I hereby confirm that, following detailed examination, no relevant deviations within the EPD Process of VALAGRO SPA have been found from the requirements outlined in the General Programme Instructions 4.0

Venice, Italy 21 May 2022
Francisco Zamarron – DNV Business Assurance Italy



REPORT ANNEX

DIALOGUE BETWEEN VERIFIER & EPD OWNER DURING THE VERIFICATION PROCESS

All comments are closed

N°	CHAPTER, ARTICLE, PARAGRAPH, TABLE	TYPE OF COMMENT*	REFERENCE TO CHECKLIST OR PROGRAMME INSTRUCTIONS	VERIFIER COMMENT AND RECOMMENDATION	EPD OWNER ANSWER	FINAL VERIFIER STATEMENT
1-2021	7.5.4.2 GPI process documentation			In § 4 - References of the EPD rev.0 certification procedure, reference is made to outdated documentation and the applicable PCR is not listed	09-12-21 FRZ: Section §3 of the procedure Ed.1 Rev.1 of November 2021 reports the updated versions of the reference documentation	Approved
3-2021	7.5.5 Quality Assurance	Te		In § 6 - Criteria for the approval of EPD declarations of the EPD rev.0 certification procedure it was not indicated that the verification and approval of each declaration must be documented by the personnel in charge (evaluate the convenience of preparing a verification / approval check list to be completed for each individual EPD declaration)	09-12-21 FRZ: An attachment to the EPD process procedure has been created with the check list of the LCA study and the EPD declaration.	Approved
7-2021	7.5.5 Quality Assurance	Te		In § 6 - Annual review of the process of the EPD rev.0 certification procedure it must be indicated that the annual review by the management must be documented and report all the input / output data provided for in section 7.5.5.2 of the General Program Instructions. One of the input data must be the result of internal audits of the correct application of this procedure to be conducted at the established frequency (see requirements 7.5.5.1 of the GPI)	09-12-21 FRZ: Management Review section has been added in the EPD process procedure	Approved

8-2021	7.5.4.6.1 Data collection	Te		In § 6 - Documented procedures of the process of the EPD certification procedure rev. 0 Where possible indicate the primary source of the data (invoice, transport document, measurement, .. etc) and any activities / responsibilities for verifying the data collected. Furthermore, the function responsible for selecting and validating the data sets from the database if used in the LCA study must be defined.	09-12-21 FRZ: View the section Data quality Procedure of the EPD process in which it is required that the validation of the data sets be done by the QEHS manager but not defined how this validation is documented. As regards the activity data, the verification of the data is carried out by the same function in charge of the collection	Approved
9-2021	7.5.4.2 GPI process documentation	Te		The EPD rev.0 certification procedure does not list all the attached documentation in §7 and there are typographical errors to be corrected (see comments on the draft procedure itself)	09-12-21 FRZ: In §7 all the documentation has been listed	Approved
4-2021	7.5.4.6.1 Data collection	Te		In § 6 - Selection of products to be analyzed of the EPD rev.0 certification procedure it is not clear what is the data collection period (January - October of each year?) And if it has been evaluated that the data collection period is a period representative. In addition, Annex 2 only contemplates the quantity of raw materials purchased, which is fine for the calculation of transport, but does not include the data collection of the quantities of raw materials used in making the product.	"09-12-21 FRZ: In the section relating to raw materials, packaging and finished products of the certification procedure of the EPD process, it has been clarified that the data collection period is the calendar year. 10-12-21 Checked that the bills of materials also take into account the scraps "	Approved
10-2021	7.5.4.7.1 GPI Development of LCA studies	Te		A descriptive PowerPoint of the LCA study of the product "Megafol 1 liter" was sent but not a descriptive report of how the LCA study was carried out	10-12-21 Verification of studies carried out on Master and Viva products. New anomaly opened (27-2021)	Approved
2-2021	7.5.4.4 GPI Resources	Te		In § 6 - Qualification criteria of the personnel of the EPD rev.0 certification procedure, the minimum skills of the technicians in charge of the elaboration of the LCA study and of the critical review of the same have not been defined. Furthermore, there are no records available that allow verifying the fulfillment of	"Updated procedure EPD process with the addition of specific parts relating to minimum skills and annual training. See par. 6.1.1-> 6.1.9 11-04-2022 FRZ: procedure verified Ed.1 Rev.2 of March 2022, section 6 viewed The EPD Process Manager function draws up the	Approved

				these qualification criteria by the persons performing these functions.	LCA report. there is a check list is each valid function the part of competence the external review of the EPD process. Created a folder of records of competences. Checked the presence of the CV of the EPD system manager and list of publications and the evidence of the function is being uploaded. LCA registrations verified 21-01-2022. A total of 225 hours in the EPD process are foreseen in the training plan for 2022. "	
5-2021	7.5.4.7.1 GPI Development of LCA studies	Te		In § 6 - LCA analysis of the EPD rev.0 certification procedure it has not been indicated whether the LCA analysis should be done by product family, by PCR, ... etc the LCA analysis must be documented in a report descriptive (in the case of Annex 7, the minimum contents of the report must be better indicated, which must be in line with the requirements of Annex A of the General Program Istructions (GPI) and the function responsible for drafting it). Each report must be reviewed by a competent technician not involved in the development of the study and the review must be documented (evaluate the convenience of preparing an evaluation checklist to be completed for each LCA study). Furthermore, there is no evidence that the LCA studies developed to date have been reviewed by independent competent personnel.	"In the EPD Process procedure, Par. 6.3 it was defined to carry out the LCA studies for each single formulation. All LCA studies have been reviewed by an independent technician with a specific evaluation checklist that is implemented for the internal process evaluation. In this way it has been verified that all the LCA studies are currently compliant with the provisions of GPI 3.01 and the relative reference PCR. 11-04-2022 FRZ: procedure verified Ed.1 Rev.2 of March 2022 revised section 6.3 which foresees the realization of an LCA study for single formulation (same product changes the packaging). In §6.3.5 we talk about internal validation and in section 6.2.2 about validation by an external critical reviewer. At the moment, four LCA studies have been carried out (Ferrilene, Master 20-20-20, Megafol and Viva). Check out the four checklists dated March 2022 "	Approved
6-2021	7.5.4.7.2 GPI Development of EPD declarations	Te		In § 6 - EPD preparation of the EPD rev.0 certification procedure it must be indicated that the EPD declarations must contain all the information required in the applicable PCRs. Also provide information on how the organization assesses the need or not to	"updated EPD certification procedure: a specific point has been added (6.4.5 Update of EPD declarations) to describe the aforementioned case. 11-04-2022 FRZ: verification procedure Ed.1 Rev.2 of March 2022 revised section 6.4.5 update of EPD declaration and section. At the moment an	Approved

				update EPD declarations already published.	EPD declaration has been issued entitled "" Environmental Product Declaration of solid and liquid biostimulants, fertilizers and organic mineral micronutrients "" which includes 4 products Ferrilene, Master 20-20-20, Megafol and Viva). Check out the four checklists dated March 2022 "	
11-2021	7.5.5.1 GPI Quality Assurance	Te		Internal audits of the EPD process have not yet been carried out due to the lack of one of the input elements of the management review	"A specific point has been added to the main procedure (6.4.4 Annual review of the process) and a specific procedure for the quality control of the process has been envisaged (All.14_Procedura_valuzione_processo_EP) Annual evaluation of the process carried out by the functions concerned, results transmitted to management and updated the Management Review in accordance with the provisions of the GPI. 11-04-2022 FRZ: verification procedure Ed.1 Rev.2 of March 2022 revised section 6.4.4 and annex 14 and check list for the verification of the EPD MR process attached. Check 6 check lists: of the process compiled by LCA-Lab on 20/01/2022, of the Process & technology function compiled by Supply Chain, of the Supply Chain function compiled by P&T, of the Research function compiled by Marketing, of the Marketing function compiled by SC and the HSE function compiled by Research. "	Approved
12-2021	7.5.5.2 GPI Quality Assurance	Te		The report of the management review carried out in November 2021 is still in draft, waiting to be formalized as an "addendum" to the review carried out on 23/03/2021. For the years to come, the review of the EPD process will be integrated into the overall minutes of the organisation's management systems. Furthermore, the compliance of the system with the requirements of the EPD	updated management review. 11-04-2022 FRZ: verified management review report 07 April 2022.	Approved

				program should be stated more explicitly in the conclusions of the review		
13-2021	7.5.4.4 GPI Resources	Te		The training to be done in 2022 relating to the EPD process decided during the management review of November 2021 has not yet been formalized within the general training plan (Q-EHS 2021-2024 Program)	updated 2022 training plan. 11-04-2022 FRZ: LCA records verified 21-01-2022. In the training plan for 2022, a total of 225 hours are foreseen in the context of the EPD process.	Approved
14-2021	7.5.4.7.1 GPI Development of LCA studies	Te		There is no reason why some of the processes within the product system (auxiliary products of the waste treatment plant, waste transport, electricity consumption of raw materials that have been modeled from literature data ...) meet the cut-off and therefore can be excluded from the quantification of environmental impacts	"1) Waste water treatment: created specific process with reference to the auxiliary products used in the same and inserted into the CORE process 2) Transport distances to the respective treatment plants have been added to the various waste disposed of in the individual plants 3) created processes relating to RESIDUAL MIX of the relative countries of origin of the MPs and inserted within the specific processes 4) all LCA studies have been updated and completed with all ancillary products, without making any cut-offs 11-04-2022 FRZ: verified process insertion of waste water treatment, waste transport, only packaging of auxiliary materials and materials of the irrigation system are excluded as they are within the cut-off "	Approved
15-2021	7.5.4.2 GPI process documentation	Te		In the Section §3 of the EPD process certification procedure, a differentiation must be made between normative documents (GPI v.4.0; PCR 2010: 20 v 3 and information documents (PCR). Furthermore, the certification procedure of the EPD process reports an index and a date of outdated revision	"Added specific reference for regulatory documents and information documents (see points 4 and 4.1) Updated index and revision date in the procedure (see procedure header and first page) 11-04-2022 FRZ: verified point 4 of the procedure in which reference was made to the regulatory documents and information documents. "	Approved
16-2021	7.5.5.1 GPI Quality Assurance	Te		"With regard to the control plan (model MR 9.1-01-A) attached to the certification procedure of the EPD process, it should be better defined: 1) for data collection, the function in charge of data collection and verification, the file for transmitting data validated to the Q-EHS function and any data verification records of	"1) the table in point 6.5 Documented procedures and registrations was modified, updating the functions involved and referring to the attachments provided for each process data. 2.1) a table was created (based on the extraction of processes from SIMAPRO See Annex 18) which shows that for each process (on each row) the type of data and the business function that together with QHES is specified validated (e.g. Vitamin PP not present in the library -> Ascorbic Acid as MP proxy	Approved

				the functions in charge 2) for the verification and validation of the database data-sets used in the quantification model, the function in charge of the evaluation and the reasons why the data-set is representative of the specific process and therefore classified as generic selected "	validated by QEHS + Quality Control or Research) 11-04-2022 FRZ: checked check list and table shown in section 6.5 and annex 18 of the process control procedure, the column with the data sets must be inserted and the validation must be done by the resp epd and the external verifier "	
17-2021	7.5.4.7.1 GPI Development of LCA studies	Te		Differences were found between the quantities of finished product distributed in 2020 reported in the data collection sheet (attachment 7 list and destination of products distributed in 2020) and the real-time extractions of the Gamma enterprise management system (Viva, Megafol, Master products and Ferrilene)	the procedure for extracting data from the GAMMA management system has been revised in collaboration with IT and Logistics in order to avoid the repetition of the same error in the future. 11-04-2022 FRZ: The data used was correct. The discrepancy was due to an incorrect extraction procedure.	Approved
18-2021	7.5.4.7.1 GPI Development of LCA studies	Te		The calculation of the ktm of raw materials was done considering only the most relevant supplier for each raw material rather than multiplying the quantity supplied of raw material by the weighted average distance of all the suppliers who supplied the same in 2020	the calculation relating to transport was updated considering all suppliers and making a weighted average with respect to the quantities purchased (see Annex 6.1_Lista MP_imballi). 11-04-2022 FRZ: verified attachment 6.1_ MP-packaging list in which the tkm calculation is made considering all supplies	Approved
19-2021	7.5.4.6.1 Data collection	Te		The information - from production to Supply Chain and from Supply Chain to Global Research - useful for updating the BOMs must be collected in a more structured way (for example with forms prepared for this purpose) within the EPD process	The management of the BOMs takes place through the use of the GAMMA management software. Within the software, the Planning with Process and Global Research functions process and update the BOMs as required by the experimental tests. Each update is tracked with a specific form (search). 11-04-2022 FRZ: Gamma management software verified (ferrylene bill of materials) with validity start date / end date validated. The Q-EHS 7.1-02 procedure has also been checked, indicating that the change requests are archived in its own archives.	Approved
20-2021	7.5.4.7.1 GPI Development of LCA studies	Te		Although in Annex 9 of the EPD process procedure it is foreseen that the calculation of the consumption quantities of plastic tubing in the use phase when the application of the product is done via fertigation, for the	the excel file provided by Research dedicated to the use phase of the analyzed products has been updated (see Annex 9_dose_uso_prodottiValagro). 11-04-2022 FRZ: verified annex 9 of the procedure of the process in which the calculation was inserted.	Approved

				four products subject to verification the calculation is not in the 'attachment indicated but it was done directly in SimaPro		
21-2021	7.5.4.7.1 GPI Development of LCA studies	Te		<p>"Regarding the modeling of the process" "energy plants generic annual (2020)" ":</p> <p>1) the quantities of energy in output (86 839.3 GJ) and in input (3 120 GJ) do not correspond to those reported in the data collection sheet (Annex 8 of the EPD process procedure)</p> <p>2) the Italian residual mix was not considered for electricity withdrawn from the grid</p> <p>3) For the production of 1 electric GJ from iC29: C36 cogeneration plant the specific plant data that are available were not used but a generic data set and for the production of 1 thermal GJ</p> <p>4) For the production of 1 thermal GJ the specific data were not used but a generic data-set was referred to</p> <p>5) The PCI of Italian natural gas is that of 2014 when 2020 data is available "</p>	<p>"1) the process relating to the module" "2020 generic annual plant energy" "was updated, accurately recalculating all consumption.</p> <p>2) the Italian residual mix was created</p> <p>3) Created specific process for cogeneration with primary data</p> <p>4) specific processes based on primary data have been created</p> <p>5) Updated CPI with reference to the table of national standard coefficients 2020 (see all.8 and all.19) 11-04-2022 FRZ: verified the new process called Kwh Plant waiting for 2020. "</p>	Approved
22-2021	7.5.4.7.1 GPI Development of LCA studies	Te		<p>In the electricity consumption data collection sheet (annex 8 of the process procedure), there is an aggregate datum of the electricity sold to the grid but without indicating the percentage of photovoltaic and cogeneration. Furthermore, the amount of gross electricity (which includes the auto energy consumed by the plant itself) produced by the cogenerator is not available.</p>	<p>"1) reference was made to the" "GSE complementary energy mix referring to 2020" "see attached file to determine the energy transferred to the grid. In any case, given the minimum quantity of energy transferred to the grid, the data is not taken into consideration for the purposes of this process, this specification has been defined within the procedure (see footnote).</p> <p>2) it is not possible to separate the types of energy transferred to the grid (PV or cogeneration). 11-04-2022 FRZ: verified the new process called Kwh at the Atessa plant, the percentages were calculated on gross consumption."</p>	Approved
23-2021	4.10.1 PCR Calculation Rules	Te		<p>The data sets used in the modeling of European-produced raw materials, which contribute significantly to the impact</p>	<p>Separate processes were created for the RESIDUAL MIX of the countries from which the raw materials originate and were used to characterize</p>	Approved

				indicators (above the 10% threshold) and which have been classified as selected generic data sets should be modified in order to replace the electricity production present in the data set with the residual mix of the country of production	the generic processes present in the studies. 11-04-2022 FRZ: verified insertion of the residual mix in the production of raw materials	
24-2021	7.5.4.7.1 GPI Development of LCA studies	Te		A record of the validation of the data sets used to model the different elementary processes is not available and the validation criterion of the data sets coming from eco-invent must use the "allocation per Cut-off" allocation method and not the "Allocation at the point of Substitution- APOS ". Furthermore, the percentage of contribution of the data-sets classified as "proxy" to the relevant impact indicators was not calculated to ascertain that this contribution is less than 10%	"1) a file has been created containing the registration of the validation of the data sets used to model the various elementary processes (see All.18 Table_validation_processes_EPD) 2) the SW has been updated to the latest version. Only "allocation by cut-off" processes were used. 3) a file has been created for each product analyzed in which the percentage of contribution of the data proxies for each impact category is calculated (see. Evaluation_contributo_proxy_Prodotto XXX) 11-04-2022 FRZ: table all 18 of the process management procedure verified. Simapro has been updated to version 9.3.0.1 and used only data sets with "" allocation for cut-off "" verified calculation of the contributions of the proxy processes which is less than 1% less than 1.37 for the VIVA and 4% abiotic depletion MASTER 202/202/20, 0.7% abiotec depletion for MEGAPOL "	Approved
25-2021	7.5.4.7.1 GPI Development of LCA studies	Te		The scenarios developed for the disposal of finished product packaging in non-European countries only cover a percentage of the total waste produced, as the missing percentage is not defined (disposal scenarios created for Brazil or Colombia)	564 / 5.000 Risultati della traduzione "The scenarios for the disposal of finished product packaging for the management of the end of life were reviewed and implemented. The management of the end of life was modeled through specific processes inserted directly into the DOWNSTREAM phase. For all the countries in which the data relating to the management of packaging waste, the landfill disposal scenario was considered. 11-04-2022 FRZ: verified that the different disposal scenarios include the percentages of all countries where the finished product is seen. "	Approved
26-2021	7.5.4.7.1 GPI Development of LCA studies	Te		The modeling done does not guarantee that the environmental charges of the unit processes are assigned to the correct LCA study macro-phase as required by PCR (for example, disposal of waste generated for the	"1) the SW has been updated to the latest version available 2) all waste has been included in macro-processes 11-04-2022 FRZ: verified that the software has been updated. Verified new modeling of the different products in order to impute the ambient charges in the correct phase: Verified the core	Approved

				packaging of the raw material must be quantified in the "core" macro-phase). Furthermore, updated characterization factors must be used (e.g. biogenic methane of the IPCC method is not updated to the latest Assessment Report AS5)	phase of the Megapol product. "	
27-2021	7.5.4.7.1 GPI Development of LCA studies	Te		In the LCA studies, the documents that contain the inventory data (bills of materials, electrical energy consumption of the plants, etc.) must be better identified and the result of the data quality analysis must be better reported. Furthermore, the section relating to the interpretation of the results and a section with the references of the literature used for the realization of the LCA study are missing	"1) clear references to supporting documents have been included in the LCA studies 2) created a file (Ann. 18 Table_validation_processes_EPД) in which the analysis of the data quality was reported 3) inserted bibliography in all studies 11-04-2022 FRZ: contents of LCA studies verified: methodology, Goal & scope definition, Life Cycle inventory and Life Cycle impact assessment. The% of proxies have been reported as an attachment to the process management procedure. "	Approved
28-2021	7.5.4.7.1 GPI Development of LCA studies	Te		The draft declaration does not contain some of the information required in the applicable PCR (presence or absence of substances subject to REACH regulation, AEI / UI indices). The check list compiled with the verification of the contents of the declaration is not available	"1) the declaration has been updated by inserting the part relating to REACH and the references to the absorption indices (AEI / UI) 2) the completed checklist of the contents of the declaration has been re-evaluated. 11-04-2022 FRZ: verified study by VIVA: methodology, Goal & scope definition, The true exclusions are not explicitly defined, indicate the% of proxies. We will put one attachment per pack. 11-04-2022 FRZ: verified EPD declaration entitled "" Environmental Product Declaration of solid and liquid biostimulants, fertilizers and organic mineral micronutrients "" in which the missing information has been integrated. Check the check lists dated March 2022 of the four products included in the EPD declaration "	Approved
29-2022		Te		The draft EPD do not follow the latest required environmental indicators as required and available on www.environdec.com/indicators . Include in the procedure to check for updates on regular basis (see PCR 4.9)	the EPD procedure has been updated by inserting the frequency with which the EPD manager will check the news on the ENVIRONDEC website (see page 10 of the procedure).	Approved
30-2022		Ed		The draft EPD shall have an English translation	The English summary has been included	Approved
31-2022		Ed		Recommendation concerning the draft EPD: 1) Limit the number of valid digits to 3 in the LCA result	we accept your observations and we plan to resolve them in the next EPD declarations. In particular, with regard to what is required for the	Approved

				Consider increased transparency on reporting emission based on the index method, see sample EPD (see separate file) that has such approach	AEI and UI indicators, specific field tests may be required to be implemented soon with our agronomic team.	
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Add more rows, as needed.

* Editorial (Ed), General (Ge) or Technical (Te)