**General Instructions**

**Quality overall summary (QOS)** template should be completed for pharmaceutical products containing APIs of synthetic or semi-synthetic origin and their corresponding VPPs.

All sections and fields in the QOS template that would be applicable should be completed.

It is understood that certain sections and fields may not apply and should be indicated as such by reporting “not applicable” in the appropriate area with an accompanying explanatory note.

The use of tables to summarize the information is encouraged, where possible. The tables included in the template may need to be expanded or duplicated (e.g. for multiple strengths), as necessary.

These tables are included as illustrative examples of how to summarize information. Other approaches to summarize the information can be used if they fulfill the same purpose.

Please state the exact location (Annex number) of any appended documents in the relevant sections of the form.

See sections 2.3 of “Guideline on submission of documentation for Registration of veterinary pharmaceutical products (VPP): quality part” for general and detailed instructions on the completion of this template

Should you have any questions regarding this form, please contact the NDA.

**Summary of product information:**

|  |  |  |  |
| --- | --- | --- | --- |
| Non-proprietary name of the finished pharmaceutical product (VPP) |  | | |
| Proprietary name of the finished pharmaceutical product (VPP) |  | | |
| International non-proprietary name(s) of the API(s) (API(s)), including form (salt, hydrate, polymorph) |  | | |
| Applicant name and address |  | | |
| Dosage form |  | | |
| Reference Number(s) |  |  |  |
| Strength(s) |  |  |  |
| Route of administration |  | | |
| Proposed indication(s) |  | | |
| Withdrawal period |  | | |
| Contact information | Name:  Phone:  Fax:  Email: | | |

**Identify available literature references for the API and VPP:**

|  |  |  |
| --- | --- | --- |
| **Publication(s)** | **Most recent edition/volume**  **in which API/VPP appears** | **Most recent edition/volume**  **consulted** |
| **API status in pharmacopoeia and forum:** | | |
| Ph.Eur. |  |  |
| BP |  |  |
| USP |  |  |
| CODEX |  |  |
| Others |  |  |
| **VPP status in pharmacopoeia and forum:** | | |
| Ph.Eur. |  |  |
| BP |  |  |
| USP |  |  |
| Others |  |  |
| **Other reference texts (e.g. public access reports):** | | |
|  |  |  |

|  |
| --- |
| **STATUS OF GMP OF MANUFACTURING FACILITIES OF VPP (Official Use Only)** |
| **Compliance to GMP, marketing authorization and Certificate of pharmaceutical product (should be provided in Module 1)**  <insert inspection observations, comments, etc.> |
| **ASSESSMENT OF LABELLING AND SAMPLES (Official Use Only)** |
| **Discussion/comments on the quality components of:** |
| **Prescribing information**  <insert assessment observations, comments, etc.> |
| **Labelling (outer and inner labels)**  <insert assessment observations, comments, etc.> |
| **Samples (e.g. VPP, device)**  <insert assessment observations, comments, etc.> |

**2.3.S. Active Pharmaceutical Ingredient (API)**

Complete the following table for the option that applies for the submission of API information:

|  |  |
| --- | --- |
| **Name of API:** |  |
| **Name of API manufacturer:** |  |
| □ | Certificate of suitability to the European Pharmacopoeia (CEP):   1. is a written commitment provided that the applicant will inform Reference Country in the event that the CEP is withdrawn and has acknowledged that withdrawal of the CEP will require additional consideration of the API data requirements to support the dossier:    * □ yes, □ no; 2. A copy of the most current CEP (with annexes) and written commitment should be provided in Module 1. 3. The declaration of access should be filled out by the CEP holder on behalf of the VPP manufacturer or applicant. 4. Summaries of the relevant information should be provided under the appropriate sections (e.g. 3.2.S.1.3, 3.2.S.3.1, 3.2.S.4.1 through 3.2.S.4.4, S.6 and 3.2.S.7; see Quality guideline). |
| □ | Drug master file (DMF) procedure:   1. DMF version number (and/or date) of the open part: \_\_\_\_\_\_\_; version number (and/or date) of the closed part: \_\_\_\_\_\_\_; 2. a copy of the letter of access should be provided in Module 1; and 3. Summaries of the relevant information from the Open part should be provided under the appropriate sections; see Section 3.2.S in the Quality guideline. |
| □ | Full details in the PD:   1. Summaries of the full information should be provided under the appropriate sections; see Section 3.2.S in the Quality guideline. |

**2.3. S.1 General Information**

**2.3.S.1.1 Nomenclature**

* + - 1. International Non-proprietary name (INN):
      2. Compendial name, if relevant:
      3. Chemical name(s):
      4. Company or laboratory code:
      5. Other non-proprietary name(s) (e.g. national name, USAN, BAN):
      6. Chemical Abstracts Service (CAS) registry number:

**2.3.S.1.2 Structure**

1. Structural formula, including relative and absolute stereochemistry:
2. Molecular formula:
3. Relative molecular mass:

**2.3.S.1.3 General Properties**

* + - 1. Physical description (e.g. appearance, colour, physical state):
      2. Solubilities**:** In common solvents:
      3. Quantitative aqueous pH solubility profile

|  |  |
| --- | --- |
| **Medium (e.g.Physiological pH ranges in tagert animal( s)** | **Solubility (mg/ml)** |
|  |  |
|  |  |

* + - 1. Physical form (e.g. polymorphic form(s), solvate, and hydrate):

Polymorphic form:

Solvate:

Hydrate:

* + - 1. Other:

|  |  |
| --- | --- |
| **Property** |  |
| pH |  |
| pK |  |
| Partition coefficients |  |
| Melting/boiling points |  |
| Specific optical rotation (specify solvent) |  |
| Refractive index (liquids) |  |
| Hygroscopicity |  |
| UV absorption maxima/molar absorptivity |  |
| Other |  |

**2.3. S.2 Manufacture**

**2.3.S.2.1 Manufacturer(s)**

* + - 1. Name, address and responsibility (e.g. fabrication, packaging, labelling, testing, and storage) of each manufacturer, including contractors and each proposed production site or facility involved in these activities:

|  |  |  |
| --- | --- | --- |
| **Name and address**  **(including block(s)/unit(s))** | **Responsibility** | **API Master File/CEP number (if applicable)** |
|  |  |  |
|  |  |  |

* + - 1. Manufacturing authorization for the production of API(s) and, where available, certificate of GMP compliance (GMP information should be provided in Module 1):

**2.3. S.2.2 Description of Manufacturing Process and Process Controls**

1. Flow diagram of the synthesis process(es):
2. Brief narrative description of the manufacturing process (es):
3. Alternate processes and explanation of their use:
4. Reprocessing steps and justification:

**2.3.S.2.3 Control of Starting Materials**

1. Summary of the quality and controls of the starting materials used in the manufacture of the API:

| **Step/starting material** | **Test(s)/method(s)** | **Acceptance criteria** |
| --- | --- | --- |
|  |  |  |
|  |  |  |

1. Name and manufacturing site address of starting material manufacturer(s):
2. Where the API(s) and the starting materials and reagents used to manufacture the API(s) are without risk of transmitting agents of animal spongiform encephalopathies, a letter of attestation confirming this can be found in:

**2.3. S.2.4 Controls of Critical Steps and Intermediates of the API**

Summary of the controls performed at critical steps of the manufacturing process and on intermediates:

| **Step/materials** | **Test(s)/method(s)** | **Acceptance criteria** |
| --- | --- | --- |
|  |  |  |
|  |  |  |

**2.3. S.2.5 Process Validation and/or Assessment**

Description of process validation and/or assessment studies (e.g. for aseptic processing and sterilization):

**2.3. S.2.6 Manufacturing Process Development**

Description and discussion of the significant changes made to the manufacturing process and/or manufacturing site of the API used in producing comparative bioavailability or biowaiver, stability, scale-up, pilot and, if available, production scale batches:

**2.3.S.3 Characterisation**

**2.3.S.3.1 Elucidation of Structure and other Characteristics**

1. List of studies performed (e.g. IR, UV, NMR, MS, elemental analysis) and conclusion from the studies (e.g. whether results support the proposed structure):
2. Discussion on the potential for isomerism and identification of stereochemistry (e.g. geometric isomerism, number of chiral centres and configurations) of the API batch (es) used in comparative bioavailability or biowaiver studies:
3. Summary of studies performed to identify potential polymorphic forms (including solvates):
4. Summary of studies performed to identify the particle size distribution of the API:
5. Other characteristics:

**2.3.S.3.2 Impurities**

1. Identification of potential and actual impurities arising from the synthesis, manufacture and/or degradation:
2. List of API-related impurities (e.g. starting materials, by-products, intermediates, chiral impurities, degradation products), including chemical name, structure and origin:

| **API-related impurity (chemical name or descriptor)** | **Structure** | **Origin** |
| --- | --- | --- |
|  |  |  |
|  |  |  |

1. List of process-related impurities (e.g. residual solvents, reagents), including compound names and step used in synthesis:

| **Process-related impurity (compound name)** | **Step used in synthesis** |
| --- | --- |
|  |  |
|  |  |

1. Basis for setting the acceptance criteria for impurities:
2. Maximum daily dose (i.e. the amount of API administered per day) for the API, corresponding to ICH Reporting/ Identification/Qualification Thresholds for the API-related impurities and the concentration limits (ppm) for the process-related impurities (e.g. residual solvents):

| **Maximum daily dose for the API:** | **<x mg/day>** | |
| --- | --- | --- |
| **Test** | **Parameter** | **ICH threshold or concentration limit** |
| API-related impurities | Reporting Threshold |  |
| Identification Threshold |  |
| Qualification Threshold |  |
| Process-related impurities | <solvent 1> |  |
| <solvent 2>, etc. |  |
|  |  |
|  |  |  |
|  |  |  |

* 1. Data on observed impurities for relevant batches (e.g. comparative bioavailability or biowaiver, stability batches):

| **Impurity**  **(API-related and process-related)** | **Acceptance**  **Criteria** | **Results (include batch number\* and use\*\*)** | | |
| --- | --- | --- | --- | --- |
|  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

\* include strength, if reporting impurity levels found in the VPP (e.g. for comparative studies)

\*\* e.g. comparative bioavailability or biowaiver studies, stability

* 1. Justification of proposed acceptance criteria for impurities:

**2.3. S.4 Control of the API**

**2.3. S.4.1 Specification**

1. API specifications of the VPP manufacturer:

| **Standard (e.g. Ph.Int., Ph.Eur., BP, USP, House)** | |  |
| --- | --- | --- |
| **Specification reference number and version** | |  |
| **Test** | **Acceptance criteria** | **Analytical procedure**  **(Type/Source/Version)** |
| Description |  |  |
| Identification |  |  |
| Impurities |  |  |
| Assay |  |  |
| etc. |  |  |
|  |  |  |
|  |  |  |

**2.3. S.4.2 Analytical Procedures**

Summary of the analytical procedures (e.g. key method parameters, conditions, system suitability testing):

**2.3. S.4.3 Validation of Analytical Procedures**

Summary of the validation information (e.g. validation parameters and results):

**2.3.S.4.4 Batch Analyses**

1. Description of the batches:

| **Batch number** | **Batch size** | **Date and**  **site of production** | **Use (e.g. comparative bioavailability or biowaiver, stability)** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

1. Summary of batch analyses release results of the VPP manufacturer for relevant batches (e.g. comparative bioavailability or biowaiver, stability):

| **Test** | **Acceptance**  **Criteria** | **Results** | | |
| --- | --- | --- | --- | --- |
| **<batch x>** | **<batch y>** | **etc.** |
| Description |  |  |  |  |
| Identification |  |  |  |  |
| Impurities |  |  |  |  |
| Assay |  |  |  |  |
| etc. |  |  |  |  |
|  |  |  |  |  |

1. Summary of analytical procedures and validation information for those procedures not previously summarized in 2.3.S.4.2 and 2.3.S.4.3 (e.g. historical analytical procedures):

**2.3. S.4.5 Justification of Specification**

Justification of the API specification (e.g. evolution of tests, analytical procedures and acceptance criteria, differences from officially recognized compendial standard(s)):

**2.3. S.5.1 Reference Standards or Materials**

1. Source (including lot number) of primary reference standards or reference materials (e.g. Ph.Eur, BP, in-house):
2. Characterization and assessment of non-official (e.g. not from an officially recognized pharmacopoeia) primary reference standards or reference materials (e.g. elucidation of structure, certificate of analysis):
3. Description of the process controls of the secondary reference standard (comparative certificate of analysis and IR spectra against primary standard) :

**2.3. S.6 Container Closure System**

* + - 1. Description of the container closure system(s) for the shipment and storage of the API (including the identity of materials of construction of each primary packaging component and a brief summary of the specifications):

| **Packaging component** | **Materials of construction** | **Specifications (list parameters e.g. identification (IR))** |
| --- | --- | --- |
|  |  |  |
|  |  |  |

* + - 1. Other information on the container closure system(s) (e.g. suitability studies):

**2.3.S.7 Stability**

**2.3. S.7.1 Stability Summary and Conclusions**

1. Summary of stress testing (e.g. heat, humidity, oxidation, photolysis, acid/base): and results:

| **Stress condition** | **Treatment** | **Results (e.g. including discussion whether mass balance is observed)** |
| --- | --- | --- |
| Heat |  |  |
| Humidity |  |  |
| Oxidation |  |  |
| Photolysis |  |  |
| Acid |  |  |
| Base |  |  |
| Other |  |  |
|  |  |  |

1. of accelerated and long-term testing parameters (e.g. studies conducted):

| **Storage condition**  **(◦C, % RH)** | **Batch number** | **Batch size** | **Container closure system** | **Completed (and proposed) testing intervals** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

Summary of the stability results observed for the above accelerated and long-term studies:

| **Test** | **Results** |
| --- | --- |
| Description |  |
| Moisture |  |
| Impurities |  |
| Assay |  |
| etc. |  |
|  |  |

1. Proposed storage statement and re-test period (or shelf-life, as appropriate):

|  |  |  |
| --- | --- | --- |
| **Container closure system** | **Storage statement** | **Re-test period\*** |
|  |  |  |
|  |  |  |

**2.3. S.7.3 Stability Data**

Refer to VICH GL3 guideline on stability requirement for testing new veterinary Drug substances

**2.3. P Veterinary Pharmaceutical Product (VPP)**

**2.3. P.1 Description and Composition of the VPP**

1. Description of the VPP:
2. Composition of the VPP:
3. Composition, i.e. list of all components of the VPP and their amounts on a per unit basis and percentage basis (including individual components of mixtures prepared in-house (e.g. coatings) and overages, if any):

| **Component and quality standard (and grade, if applicable)** | **Function** | **Strength (label claim)** | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | |  | |
| **Quant. per unit** | **%** | **Quant. per unit** | **%** | **Quantity per unit** | **%** |
| <complete with appropriate title e.g. Core tablet, Contents of capsule, Powder for injection> | | | | | | | |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Subtotal 1 |  |  |  |  |  |  |  |
| <complete with appropriate title e.g. Film-coating > | | | | | | | |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Subtotal 2 |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |

1. Composition of all components purchased as mixtures (e.g. colourants, coatings, capsule shells, imprinting inks):
2. Description of accompanying reconstitution diluent(s), if applicable:
3. Type of container closure system used for the VPP and accompanying reconstitution diluent, if applicable**:**

**2.3.P.2 Pharmaceutical Development**

**2.3.P.2.1 Components of the VPP**

**2.3.P.2.1.1 API**

1. Discussion of the:
2. Compatibility of the API(s) with excipients listed in 2.3.P.1:
3. Key physicochemical characteristics (e.g. water content, solubility, particle size distribution, polymorphic or solid state form) of the API(s) that can influence the performance of the VPP:
4. For fixed-dose combinations, compatibility of APIs with each other:

**2.3.P.2.1.2 Excipients**

* + - 1. Discussion of the choice of excipients listed in 2.3.P.1 (e.g. their concentrations, their characteristics that can influence the VPP performance):

**2.3. P.2.2 Veterinary pharmaceutical product**

**2.3. P.2.2.1 Formulation Development**

* + - 1. Summary describing the development of the VPP (e.g. route of administration, usage, optimization of the process parameters and formulation, etc.):
      2. Information on primary batches including comparative bioavailability or biowaiver, stability, commercial:

1. Summary of batch numbers:

|  |  |  |  |
| --- | --- | --- | --- |
| **Batch number(s) of the VPPs used in** | | | |
| **Bioequivalence or biowaiver** |  | | |
| **Dissolution profile studies** |  | | |
| **Stability studies (primary batches)** | | | |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Stability studies (production batches)** | | | |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Validation studies (primary batches) if available** | | | |
|  |  |  |  |
|  |  |  |  |
| **Validation studies (at least the first three consecutive production batches)**  **or code(s)/version(s) for process validation protocol(s)** |  |  |  |

1. Summary of formulations and discussion of any differences:

| **Component and quality standard (e.g. BP, Ph.Eur, in-house)** | **Relevant Batches** | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Stability** | | **Process validation** | | **Commercial (2.3.P.1)** | |
| **<Batch nos. and sizes>** | | **<Batch nos. and sizes>** | | **<Batch nos. and sizes>** | |
|  | |  | |  | |
| **Theor.**  **quantity per batch** | **%** | **Theor.**  **quantity per batch** | **%** | **Theor.**  **quantity per batch** | **%** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal 1 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal 2 |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |

* + - 1. Description of batches used in the comparative in vitro studies (e.g. dissolution) and in the in vivo studies (e.g. comparative bioavailability or biowaiver), including strength, batch number, type of study and reference to the data (volume, page):
      2. Summary of results for comparative in vitro studies (e.g. dissolution):
      3. Summary of any information on in vitro-in vivo correlation (IVIVC) studies (with cross-reference to the studies in Module 5):
      4. For scored tablets, provide the rationale/justification for scoring:

**2.3. P.2.2.2 Overages**

Justification of overages in the formulation(s) described in 2.3.P.1:

**2.3.P.2.2.3 Physicochemical and Biological Properties**

Discussion of the parameters relevant to the performance of the VPP (e.g. pH, ionic strength, dissolution, particle size distribution, polymorphism, rheological properties):

**2.3.P.2.3 Manufacturing Process Development**

1. Discussion of the development of the manufacturing process of the VPP (e.g. optimization of the process, selection of the method of sterilization):
2. Discussion of the differences in the manufacturing process (es) for the batches used in the comparative bioavailability or biowaiver studies and the process described in 2.3.P.3.3:

**2.3.P.2.4 Container Closure System**

1. Discussion of the suitability of the container closure system (described in 2.3.P.7) used for the storage, transportation (shipping) and use of the VPP (e.g. choice of materials, protection from moisture and light, compatibility of the materials with the VPP):
2. For a device accompanying a multi-dose container, a summary of the study results demonstrating the reproducibility of the device (e.g. consistent delivery of the intended volume):

**2.3.P.2.5 Microbiological Attributes**

Discussion of microbiological attributes of the VPP (e.g. preservative effectiveness studies):

**2.3. P.2.6 Compatibility**

Discussion of the compatibility of the VPP (e.g. with reconstitution diluent(s) or dosage devices, co-administered VPPs):

**2.3. P.3 Manufacture**

**2.3.P.3.1 Manufacturer(s)**

Name, address and responsibility (e.g. fabrication, packaging, labelling, and testing) of each manufacturer, including contractors and each proposed production site or facility involved in manufacturing and testing:

| **Name and address**  **(include block(s)/unit(s))** | **Responsibility** |
| --- | --- |
|  |  |
|  |  |

**2.3.P.3.2 Batch Formula**

List of all components of the VPP to be used in the manufacturing process and their amounts on a per batch basis (including individual components of mixtures prepared in-house (e.g. coatings) and overages, if any):

| **Strength (label claim)** |  |  |  |
| --- | --- | --- | --- |
| **Master production document**  **reference number and/or version** |  |  |  |
| **Proposed commercial batch size(s) (e.g. number of dosage units)** |  |  |  |
| **Component and quality standard** | **Quantity per dosage unit (e.g. mg/ml** | **Quantity per batch (e.g. kg/batch)** | **Function of ingredients** |
| <complete with appropriate title e.g. Core tablet, Contents of capsule, Powder for injection> | | | |
|  |  |  |  |
| Subtotal 1 |  |  |  |
| <complete with appropriate title e.g. Film-coating > | | | |
|  |  |  |  |
| Subtotal 2 |  |  |  |
| Total |  |  |  |

**2.3.P.3.3 Description of Manufacturing Process and Process Controls**

* + - 1. Flow diagram of the manufacturing process:
      2. Narrative description of the manufacturing process, including equipment type and working capacity, process parameters:
      3. Justification of reprocessing of materials where applicable:

**2.3.P.3.4 Controls of Critical Steps and Intermediates**

1. Summary of controls performed at the critical steps of the manufacturing process and on isolated intermediates:

Critical steps: Tests and acceptance criteria (with justification including experimental data) performed at critical steps identified in 3.2.S.2.2 of the manufacturing process to ensure that the process is controlled should be provided.

Intermediates: Information on the quality and control of intermediates isolated during the process should be provided.

The critical steps should be identified. These can be among others: steps where significant impurities are removed or introduced, steps introducing an essential molecular structural element such as a chiral centre or resulting in a major chemical transformation, steps having an impact on solid state properties and homogeneity of the API that may be relevant for use in solid dosage forms.

Specifications for isolated intermediates should be provided and should include tests and acceptance criteria for identity, purity and assay, where applicable.

| **Step**  **(e.g. granulation, compression, coating, sterilization )** | **Controls** |
| --- | --- |
|  |  |

**2.3.P.3.5 Process Validation and/or Assessment**

It is expected that the manufacturing processes for all APIs are properly controlled. If the API is prepared as sterile, a complete description should be provided for aseptic processing and/or sterilization methods. The controls used to maintain the sterility of the API during storage and transportation should also be provided. Alternate processes should be justified and described.

Process validation and/or evaluation studies for aseptic processing and sterilization should be included.

Summary of the process validation and/or assessment studies conducted (including product quality review(s) where relevant) and/or a summary of the proposed process validation protocol for the critical steps or critical assays used in the manufacturing process (e.g. protocol number, parameters, and results):

**2.3. P.4 Control of Excipients**

**2.3.P.4.1 Specifications**

Summary of the specifications for officially recognized compendia excipients which include supplementary tests not included in the officially recognized compendial monograph(s):

**2.3.P.4.2 Analytical Procedures**

Summary of the analytical procedures for supplementary tests:

**2.3.P.4.3 Validation of Analytical Procedures**

Summary of the validation information for the analytical procedures for supplementary tests (where applicable):

**2.3.P.4.4 Justification of Specifications**

Justification of the specifications (e.g. evolution of tests, analytical procedures and acceptance criteria, exclusion of certain tests, differences from officially recognized compendial standard(s)):

**2.3.P.4.5 Excipients of Animal Origin**

1. For VPPs using excipients without risk of transmitting agents of animal spongiform encephalopathies, a letter of attestation confirming this can be found in:
2. CEP(s) demonstrating TSE-compliance can be found in:

**2.3.P.4.6 Batch analysis of the excipients**

Summary of batch analyses for each excipient.

**2.3.P.5 Novel Excipients**

For excipients not described in a pharmacopoeia, the specification and routine tests should be summarised. Where the excipient is used for the first time in pharmaceutical product full data must be provided in the quality guideline module 3 on nomenclature, description, manufacture, quality control during manufacture etc. (as for an API),

**2.3.P.6 Control of VPP**

**2.3.P.6.1 Specification(s)**

Specification(s) for the VPP:

| **Standard (e.g. BP, Ph Eur, In House)** | | |  |
| --- | --- | --- | --- |
| **Specification reference number and version** | | |  |
| **Test** | **Acceptance criteria**  **(release)** | **Acceptance criteria**  **(shelf-life)** | **Analytical procedure**  **(type/source/version)** |
| Description |  |  |  |
| Identification |  |  |  |
| Impurities |  |  |  |
| Assay |  |  |  |
| etc. |  |  |  |

**2.3. P.6.2 Analytical Procedures**

Summary of the analytical procedures (e.g. key method parameters, conditions, system suitability testing):

See Appendix 7 of module 3 for summaries of the analytical procedures and validation information

**2.3. P.6.3 Validations of Analytical Procedures**

Summary of the validation information (e.g. validation parameters and

results):

**2.3. P.6.4 Batch Analyses**

1. Description of the batches:

| **Strength and**  **batch number** | **Batch size** | **Date and**  **site of production** | **Use (e.g. comparative bioavailability or biowaiver, stability)** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. Summary of batch analyses release results for relevant batches (e.g. comparative bioavailability or biowaiver, stability):

| **Test** | **Acceptance**  **criteria** | **Results** | | |
| --- | --- | --- | --- | --- |
| **<batch x>** | **<batch y>** | **etc.** |
| Description |  |  |  |  |
| Identification |  |  |  |  |
| Impurities |  |  |  |  |
| Assay |  |  |  |  |
| etc. |  |  |  |  |

1. Summary of analytical procedures and validation information for those procedures not previously summarized in 2.3.P.6.2 and 2.3.P.6.3 (e.g. historical analytical procedures):

**2.3. P.6.5 Characterisation of Impurities**

1. Identification of potential and actual impurities:

| **Degradation product (chemical name or descriptor)** | **Structure** | **Origin** |
| --- | --- | --- |
|  |  |  |
|  |  |  |

| **Process-related impurity (compound name)** | **Step used in the VPP manufacturing process** |
| --- | --- |
|  |  |
|  |  |

1. Basis for setting the acceptance criteria for impurities:
2. Maximum daily dose (i.e. The amount of API administered per day) for the API, corresponding VICH Reporting/ Identification/ Qualification Thresholds for the degradation products in the VPP and the concentration limits (ppm) for the process-related impurities (e.g. residual solvents):

| **Maximum daily dose for the API:** | **<x mg/day>** | |
| --- | --- | --- |
| **Test** | **Parameter** | **VICH threshold or concentration limit** |
| Degradation product | Reporting Threshold |  |
| Identification Threshold |  |
| Qualification Threshold |  |
| Process-related impurities | <solvent 1> |  |
| <solvent 2>, etc. |  |
|  |  |

1. Data on observed impurities for relevant batches (e.g. comparative bioavailability or biowaiver):

| **Impurity**  **(degradation product and process-related)** | **Acceptance**  **criteria** | **Results** | | |
| --- | --- | --- | --- | --- |
| <batch no., strength, use> |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. Justification of proposed acceptance criteria for impurities:

**2.3. P.6.6 Justification of Specification(s)**

Justification of the VPP specification(s) (e.g. evolution of tests, analytical procedures and acceptance criteria, differences from officially recognized compendial standard(s)):

**2.3. P.7 Reference Standards or Materials**

1. Source (including lot number) of primary reference standards or reference materials (e.g. BP, in-house) not discussed in 3.S.1.5
2. Characterization and assessment of non-official (e.g. not from an officially recognized pharmacopoeia) primary reference standards or reference materials (e.g. elucidation of structure, certificate of analysis) not discussed in 3.S.1.5:
3. Description of the process controls of the secondary reference standard (comparative certificate of analysis and IR spectra against primary standard) not discussed in 3.S.1.5:

**2.3. P.8 Container Closure System**

1. Description of the container closure systems, including unit count or fill size, container size or volume:

|  |  |  |
| --- | --- | --- |
| **Description**  **(including materials of construction)** | **Unit count or fill size** | **Container size** |
|  |  |  |
|  |  |
|  |  |
|  |  |  |
|  |  |
|  |  |

1. Summary of specifications of each primary and functional secondary (e.g. foil pouches) packaging components:

|  |  |
| --- | --- |
| **Packaging component** | **Specifications**  **(list parameters e.g. identification (IR))** |
| HDPE bottle |  |
| PP cap |  |
| Induction sealed liners |  |
| Blister films (PVC, etc) |  |
| Aluminum foil backing |  |
| etc. |  |
|  |  |

1. Other information on the container closure system(s):

**2.3. P.9 Stability**

**2.3. P.9.1 Stability Summary and Conclusions**

1. Summary of stress testing and results (e.g. photostability studies, cyclic studies, freeze-thaw studies):
2. Summary of accelerated and long-term testing parameters (e.g. studies conducted):

| **Storage conditions (◦C, % RH)** | **Strength and batch number** | **Batch size** | **Container closure system** | **Completed (and proposed) test intervals** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

1. Summary of the stability results observed for the above accelerated and long-term studies:

| **Test** | **Results** |
| --- | --- |
| Description |  |
| Moisture |  |
| Impurities |  |
| Assay |  |
| etc. |  |
|  |  |

1. Summary of in use stability studies

| **Storage conditions (◦C, % RH)** | **batch number** | **Batch size** | **Container closure system** | **Completed (and proposed) test intervals** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

1. Summary of in use stability results observed for the above stability studies:

| **Test** | **Results** |
| --- | --- |
| Description |  |
| Moisture |  |
| Impurities |  |
| Assay |  |
| etc. |  |
|  |  |

1. Proposed storage statement and shelf-life (and in-use storage conditions and in-use period, if applicable):

|  |  |  |
| --- | --- | --- |
| **Container closure system** | **Storage statement** | **Shelf-life** |
|  |  |  |
|  |  |  |

**2.3. P.9.2 Stability Data**

1. The actual stability results should be provided in Module 3.
2. Summary of analytical procedures and validation information for those procedures not previously summarized in 2.3.P.5 (e.g. analytical procedures used only for stability studies):
3. Bracketing and Matrixing design and justification for ongoing stability batches, if applicable