

## Vitamin A Soft Gelatin Capsule – Technical Specifications

**Dose:** 100,000 IU

**Description:**

- Soft gelatin capsules with nipple to allow for cutting and administration drop by drop.

**Capsule Specifications:**

- **Color:** Opaque blue, PMS 302c is recommended as a reference pantone color.
- **Gelatin:** Must be without BSE infectivity: Reference is made to the Resolution AP/CSP(99)4, AP/CSP(99)T, to EMEA/410/01 – rev. 1.
- **Size:** length: 0.260" +/- 15 %      width: 0.550 +/- 15 %
- **Weight:** must conform to manufacturers product specifications
- **Hardness:** At time of manufacturing, after the drying process, Soft Gelatin Capsules should have a gelatin shell hardness not less than 6 Newtons, as measured with a Bareiss Hardness Tester, or equivalent.

**Capsule Contents:**

- **Retinol (as palmitate):** 100,000 IU
- **DL-alpha-tocopherol or tocopheryl acetate:** 20 IU in oily solution
- **Oil:** any oils used in the formulation must at least be a food grade oil and meet appropriate suspension parameters.
- **Flavoring Agents:** A vanilla flavoring agent shall be added to Soft Gelatin shell to mask any unpleasant smell or taste.
- The retinol (as palmitate) and excipients must comply with the requirements stated in the British and U.S. Pharmacopeias and applicable general requirements in the U.S. Pharmacopoeia.

**Shelf Life:**

- Manufacturers shall provide stability studies showing product shelf life under conditions of high temperature and humidity using testing protocols for climatic conditions in Zone IV (ICH Zone IV), and proof of at least three (3) years of shelf life (minimum of 18 months real time data is required).





## Bottling/Packaging/Labels:

- Vitamin A Soft Gelatin Capsules are bottled as 100, 500, or 1,000 capsules per container. All bottles shall be opaque (HDPE), tamper-evident, and conform to the latest internationally recognized pharmacopoeia standards, and shall be suitable for shipment, storage and use worldwide at elevated temperatures and humidity typical of Zone IV climate.
- Bottles used shall be, at minimum, a tamper-evident, opaque, plastic, container with screw-cap, each containing 100, 500, or 1,000 capsules and sufficient desiccant material to minimize humidity. If a tamper-resistant bottle is available, this may also be used.
- Formulation and packaging shall be suitable for delivery and use in countries consistent with Zone IV climatic conditions.
- Labels shall meet Vitamin Angels' label requirements for Vitamin A Soft Gelatin Capsules.

## Certifications:

- **GMP:** Vitamin A Soft Gelatin Capsules shall be considered Pharmaceutical Products or Dietary Supplements and shall be manufactured in accordance with relevant Good Manufacturing Practices (GMP) Standards. Manufacturers shall submit written evidence of certification of manufacture according to GMP Standards for Pharmaceutical Products or Dietary Supplements, by an internationally recognized authority or by NSF International. In areas where no specific "certification" is granted by regulatory authorities, evidence of most recent inspection by the appropriate national regulatory agency shall be submitted (e.g., FD-483 from the US FDA), along with documentation of corrective actions for any deficiencies noted and final resolution by the agency indicating no further regulatory action indicated.
- **Halal:** Manufacturing process for Vitamin A Soft Gelatin Capsules and the bottled finished product shall be certified as a Halal, and shall be certified by a recognized Halal registrar such as the Islamic Food and Nutrition Council of America (IFANCA) to meet Islamic Halal requirements. This requirement shall apply to the manufacturer of the Soft Gelatin Capsules and the manufacturer of key raw materials and the bottler/packager – all of whom shall be certified by the same HALAL registrar.
- **Certificate of Analysis:** In order to demonstrate conformity to internationally recognized standards, Vitamin A Soft Gelatin Capsules manufacturers shall provide a Certificate of Analysis (CoA) showing that each batch of product meets specifications established by Vitamin Angels (specifications are listed in the Finished Products Specifications attached to this document). The CoA shall include test items and specification limits as outlined in Finished Product Specifications, specific test method used, and actual test results from each lot/batch of product being supplied.



## Additional Information and Quality Standards:

- Vitamin A Soft Gelatin Capsules shall be manufactured in conformity to the latest edition of British (BP), International Pharmacopoeia, United States Pharmacopeia (USP) or European Pharmacopoeia (Ph. Eur) and be suitable for shipment, storage, and use worldwide unless otherwise stated.
- Manufacturer shall provide copies of all certificates and documents issued by National Health Authorities, authorizing them to manufacture and sell Vitamin A Soft Gelatin Capsules. The manufacturer will be required to show proof that its production facilities have a valid inspection report from the National Health Authorities.
- Manufacturers of the Bottled Finished Product shall be responsible for ensuring that manufacturer(s) of all ingredients used in the manufacture of the Vitamin A Soft Gelatin Capsules conform to all stated requirements. Evidence of certification and/or satisfactory inspection of this/these manufacturers by an internationally recognized authority (e.g., U.S. FDA, WHO, or a regulatory authority that is a member of the Pharmaceutical Inspection Cooperation Scheme) shall be provided.
- Manufacturers shall notify Vitamin Angels of any significant changes to their process for providing Vitamin A capsules so that Vitamin Angels can evaluate potential impacts on the product. These significant changes include, but are not necessarily limited to, changes in suppliers of any raw materials or components; changes to processing steps; changes to major pieces of equipment; changes to testing protocols or equipment. Vitamin Angels reserves the right to request additional information necessary to evaluate such impact (e.g., additional stability data, test method validation, process or computer verification/validation, etc.).
- Manufacturers shall maintain robust quality processes for initial and ongoing qualification of suppliers as well as any subcontractors (e.g., subcontracted manufacturing, packaging, or testing steps). Evidence of such controls shall be available to Vitamin Angels.
- If Vitamin A products are manufactured according to dietary supplement standards, manufacturer should conduct an Annual Product Review (APR) as described in 21CFR 211.180(e) and an annual physical inspection of retained samples as described in 21CFR 211.170(b), in addition to all dietary supplement GMP standards.
- Vitamin Angels reserves the right to request free, non-returnable samples for evaluation and testing of the product and / or of the packing and packaging. Samples will be subject to technical review and laboratory testing and analysis.

## Further References:

- For the Certificate of Pharmaceutical Product according to WHO Certification Scheme, please refer to the WHO Technical Report Series No. 863 titled **WHO Expert Committee on Specifications for Pharmaceutical Preparations – Thirty-fourth Report** (Geneva, World Health Organization, 1996). Please note that earlier versions are not acceptable.





- For background information on the vitamin A supplementation program, please refer to the WHO publication on **Vitamin A Supplements: A guide to their use in the treatment and prevention of vitamin A deficiency and xerophthalmia - Second edition** (Geneva, World Health Organization, 1997).
- For information regarding the NSF GMP Certificate please refer to NSF/ANSI Standard 173-2008.

