

Decco Communication on Shellac Resin

1 BACKGROUND

Some supermarkets in Australia have inquired about the quality of shellac resin used as an ingredient in apple wax coatings. Apple packers, who are EE Muir's customers, have in turn asked EE Muir to provide documentation on the quality of shellac and manufacturing practices used by Decco. Below are a number of documents and explanations that Decco is providing to EE Muir in support of Decco's quality and manufacturing practices.

2 WHAT IS NATURAL SHELLAC RESIN

Shellac is a natural gum resin secreted by the lac beetle (*Laccifer lacca*) which lives on trees in tropical and subtropical regions. The natural gum resin is harvested from the trees and then processed and refined into flakes and powders of pure natural shellac resin.

3 SHELLAC AND ITS USES

Natural shellac resin has unique properties and is used in various applications such as: Fruit coatings, Confectionery (Candy & Chocolates coating), Pharmaceutical (Tablets coatings) as well as several non-food segments.

Shellac is used as a 'wax' coating on citrus fruit to prolong its shelf/storage life. It is also used to replace the natural wax of the apple, which is removed during the cleaning & washing process. In these applications, the wax coating prevents moisture loss (shrinking, shriveling of the fruit) and preserves the textural and eating quality of the fruit. When used for this purpose, it has the food additive E number E904 which is recognized and adopted worldwide.

Shellac is also used as a glazing agent on pills, food, chocolate & candies, in the form of pharmaceutical glaze or, confectioner's glaze. Because it resists stomach acids well, shellac-coated pills are used for timed enteric release.

The industrial uses of shellac include its use as varnish, floor polish, wood finish, adhesive and sealing wax. Shellac was historically used as a protective coating on paintings.

In the cosmetics industry, shellac is known as a nail treatment that lasts longer than regular polish. It also gives it a better glossy finish.

Further information on shellac and its uses can be found at : <https://en.wikipedia.org/wiki/Shellac>

4 MANUFACTURING OF FORMULATED SHELLAC WAX COATING

The formulated shellac wax coating (that is supplied to EE Muir) is manufactured by Decco US in its Monrovia, California and Yakima, Washington facilities. The Decco facilities are EPA (Environmental Protection Agency) registered facilities which operate according to local and federal laws relating to industrial and labor practices.

The natural shellac resin ingredient that is used in the wax coating formulation is supplied by Anning Decco which is a Decco subsidiary located in China.

5 MANUFACTURING OF NATURAL SHELLAC RESIN

Decco manufactures refined natural shellac resin in Kunming, China where it operates as a joint venture named Anning Decco. Anning Decco joint venture was formed in 1996 and has been manufacturing refined shellac resin since 1998. Anning Decco supplies this refined natural shellac resin to Decco US where it is used as an ingredient to manufacture wax coatings for fruits.

Anning Decco, China is a US FDA registered facility. It operates in strict compliance with industrial and labor laws of the People's Republic of China. Anning Decco applies global standards of food additives and GMP (Good Manufacturing Practices) throughout its operations.

In support of our manufacturing practices, we have attached the following two declarations:

- Declaration as US FDA registered facility
- Declaration of GMP manufacturing practices

6 QUALITY CERTIFICATIONS OF NATURAL SHELLAC RESIN

Anning Decco manufactures the refined natural shellac resin with the highest quality standards which are in compliance with guidelines of Chinese, US and European regulatory agencies. The refined shellac is considered to be a direct food additive (E904) as per leading regulatory agencies around the world. We are providing declarations of compliance with the following regulatory standards:

- Food Grade Additive as per Quality Standard LY 1193-19 of The General Administration of Quality Supervision, Inspection & Quarantine of the People's Republic of China under XK13-217-01112.
- US FDA regulation 21 CFR 184.1705 Shellac, under Part 184- Direct Food Substances Affirmed as Generally Recognized as Safe (GRAS).
- EC Regulation No. 1333/2008 on food additives and EU Regulation No. 231/2012 laying down specifications for food additives and their amendments
- USP and FCC Food Grade certifications

7 DIETARY CERTIFICATIONS

The refined shellac resin (food additive E904) produced by Anning Decco meets the following dietary standards:

- Shellac is a Kosher ingredient. A certification is attached.
- Shellac is also considered a Halal ingredient (<http://ahlussunnah.boards.net/thread/242/shellac-fighi-appraisal-halal-haram>)
- Shellac is vegetarian according to the Vegetarian Society (<https://www.vegsoc.org/FAQs>)
- Shellac is not vegan as per the Vegan Society (<https://www.vegansociety.com/whats-new/blog/how-avoid-buying-non-vegan-products>)

8 Q&A

Is the shellac used by Anning Decco produced in an ethical manner?

- Anning Decco produces shellac in an ethical manner
- Anning Decco complies with all China labor laws. Our employees work 8 hours a day. Overtime is rare and does not exceed China labor law.
- The employees at Anning Decco receive salaries above the China minimum wage. No slave labor is employed as it violates both China laws and Decco's own internal code of conduct.
- Anning Decco also provides social insurance to all employees.
- Anning Decco complies with all applicable environmental standards in China. All waste water and solid waste are treated and comply with Chinese discharge standards.

Is the shellac used by Decco produced in a clean, hygienic, quality assured manner? Can you provide details of the production and processing of shellac?

- Yes, Decco uses quality assurance programs to assure the quality of shellac resin. Refined shellac is produced using a series of steps such as – filtering, dissolving, refining, centrifuging, drying, etc. These processes are carried out in state of the art equipment which are maintained according to hygienic standards following GMP guidelines. Quality is checked at each step of the process to assure consistency.
- A video of our plant and processing methods will be uploaded for you to view (links to be sent separately). Further communications will be shortly released by Decco on the occasion of the 20th anniversary of the Anning Decco joint venture.

Is the shellac used food grade and fully approved food additive?

- Yes the shellac produced by Anning Decco is fully approved as a food grade direct food additive (E904). As discussed above, the shellac complies with US (FDA, EPA), EU, and Chinese regulations regarding food additives. Several declarations have been attached as part of food additive status.

Is shellac suitable for Vegans and Vegetarians?

- Shellac is vegetarian as per the Vegetarian Society (<https://www.vegsoc.org/FAQs>). As per the Vegan Society shellac is not considered vegan (<https://www.vegansociety.com/whats-new/blog/how-avoid-buying-non-vegan-products>).