



## **The Production Method for Grapefruit Seed Extract** **(Citrus Grandis Seed Extract)**

Plant product: Citrus grandis, Citrus paradisi post juice product extract, Grapefruit extract, Grapefruit seed extract.

### **Steps to process seeds**

- Separating the seed, pulp and rind from tree-ripened grapefruit.
- Drying the seeds, pulp and rind for 24-48 hours at temperature range of 150-200 deg. C.
- Mixing the dried seeds, pulp and rind at a ratio of 80:20 seeds and rind / pulp by weight.
- Grinding the seeds/rind/pulp mixture in a hammer mill to small particles.
- Pressing particles into formation of compressed pellets.



### **Steps to make GSE**

- Placing a glycerin solution in an extraction chamber.
- Heating glycerin solution to a temperature of approximately 150 deg. F.
- Fixing a mesh container inside the extraction chamber. Filling the mesh container with a specific amount of seeds/rind/pulp mixture.
- Circulating said glycerin solution through said extraction chamber and through an external ultraviolet system and magnetic system to stabilize said reaction product and remove ferromagnetic constituents there from.
- Continue at 150 deg F for a specified amount of time.
- Reduce the temperature to a specific range while increasing the hydraulic pressure in the chamber to a specific pressure range.
- Separating the resulting syrup from the residue.
- Passing the syrup through a force filter system.
- Packing the syrup like liquid in sealed containers for shipment.

Prepared by Jay Basu  
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