

# Technical Data Sheet (TDS)

Passaro International | High-Quality Botanical Extracts & Bioactive Ingredients

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## Product Overview

- Product Name:** Bulk Freeze Dried Amla, Ginger & Lemon Powder Blend
- Description:** Premium commercial-grade botanical powder blend produced via sub-0.1 mbar vacuum lyophilization and cryogenic blast freezing (-40°C). Designed for rapid, 100% water solubility with complete retention of native thermolabile bioactives.

## 1. General & Physical Specifications

| Parameter                 | Specification Standard                                                 |
|---------------------------|------------------------------------------------------------------------|
| Appearance / Form         | Fine, free-flowing light greenish-yellow powder                        |
| Taste & Aroma             | Characteristic tart amla, warm pungent ginger, and citrusy lemon blend |
| Solubility                | 100% Water Soluble (Instant dispersion in ambient and cold liquid)     |
| Moisture Content          | ≤ 4.0% (Vacuum oven drying method)                                     |
| Particle Fine / Mesh Size | 80 – 100 Mesh (98% pass-through rate)                                  |
| Bulk Density              | 0.40 – 0.55 g/ml                                                       |
| Processing Technology     | Cryogenic Blast Freezing (-40°C) & Sub-0.1 mbar Vacuum Lyophilization  |

## 2. Bioactive & Marker Profile

| Key Ingredient                                | Active Marker Standard                                                          |
|-----------------------------------------------|---------------------------------------------------------------------------------|
| Amla Berries ( <i>Emblica officinalis</i> )   | High Natural Ascorbic Acid (Vitamin C) & Hydrolyzable Tannins (Emblicanin A, B) |
| Ginger Rhizome ( <i>Zingiber officinale</i> ) | Bioactive Gingerols, Shogaols & Zingiberene Volatiles                           |
| Lemon Fruit ( <i>Citrus limon</i> )           | Natural Citric Acid, Citrates, Bioflavonoid Complex (Hesperidin, Rutin)         |
| Overall Active Retention                      | ≥ 98% Bioactive retention compared to fresh raw botanicals                      |

## 3. Regulatory & Quality Compliance

- North America:** USFDA FSVP Compliant
- European Union:** EU Heavy Metals & Pesticide Compliant
- Non-GMO Status:** 100% Non-GMO Botanical Input

- **Additives:** Zero added preservatives, synthetic colorants, sugar, or carrier agents

#### 4. Commercial Packaging & MOQ

- **Standard Packaging:** 25 kg Nitrogen-Flushed Fiber Drums
- **Internal Liner:** High-barrier double low-moisture PE liners
- **Trial / Sample Batch:** 10 – 15 kg Pilot Production Batch
- **Shelf Life:** 24 Months from manufacturing date in original sealed packaging

#### 5. Suggested Applications

- **Functional Beverages:** Ready-to-Mix (RTM) beverage sachets, wellness shots, and botanical teas.
- **Nutraceutical Formulations:** Immunity capsules, dietary tablets, functional gummies, and effervescent.
- **Food & Confectionery:** Natural flavoring & acidulant base for health snacks and confectionery.

#### Company Contact & Facility Details

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