| | | | | | |
|---|---|---|---|---|---|
| Cube, nominal 6.4 × 6.4 × 6.4 mm | Steam-blanched, peroxidase-negative | 24 months at −18 °C (bulk); 12 months on retail packs | Free-flowing, no additives | Lead ≤ 0.10 · Cd ≤ 0.10 mg/kg | FSSC 22000 · FSSAI · APEDA · IEC |

## 1. Product

| | |
|---|---|
| **Product** | IQF Diced Potato 6.4 mm (¼") |
| **Description** | Peeled, diced, steam-blanched and individually quick frozen high-solid potato, nominal 6.4 mm (¼") cube, free-flowing, no additives and no sulphites. |
| **Ingredients** | 100 % potato |
| **Variety** | High-solid processing potato varieties, conventionally grown — not organic |
| **Origin** | Grown by Sunshine's own and contract farms and approved growers in Uttar Pradesh, India, against Sunshine's raw-material specification; processed at Sikandrabad. Product of India. |
| **Process** | Raw-material intake → Pre-wash and destoning → Peeling → Inspection → Dicing → Steam blanching → Cooling and dewatering → IQF freezing → Inspection and metal detection → Packing and coding → frozen storage at −18 °C |
| **Intended use** | Ingredient for further cooking or processing — not ready-to-eat; cook before consumption. Suitable for the general population. |
| **Classification** | HS 0710.10 (potatoes, frozen) · FSSAI category 4.2.2.1 frozen vegetables |

## 2. Physical and organoleptic specification (500 g frozen sample; sensory after cooking)

| Parameter | Specification | Method | Frequency |
|---|---|---|---|
| Cut | Cube, nominal 6.4 × 6.4 × 6.4 mm | Dicer setting; calliper on 20 pieces | Every lot |
| Size distribution | ≥ 85 % w/w within 5.5–7.5 mm | Sieve / calliper on 500 g | Every lot |
| Oversize | ≤ 5 % w/w | Visual, 500 g | Hourly |
| Undersize | ≤ 10 % w/w | 3 mm screen, 500 g | Hourly |
| Total solids (frozen product) | ≥ 18 % | Oven drying | Every lot |
| Colour | Uniform white to cream typical of variety; no grey, black or pink discolouration after cooking | Visual; cooked 100 g | Every lot |
| Flavour and odour (after cooking) | Characteristic of par-cooked potato; no off-flavours | Sensory | Every lot |
| Texture (after cooking) | Firm individual cubes; not mushy or disintegrated | Sensory | Every lot |
| Free-flowing / clumps | ≥ 95 % individual pieces; clumps ≤ 2 % w/w | Visual, 500 g | Hourly |
| Foreign material | Nil | Visual, 500 g | Hourly |
| Extraneous vegetable matter | ≤ 1 % w/w | Visual, 500 g | Hourly |
| Blemish (> 3 mm) | ≤ 2 % w/w | Visual, 500 g | Hourly |
| Greening | ≤ 2 % w/w | Visual, 500 g | Hourly |
| Unpeeled | ≤ 5 % w/w | Visual, 500 g | Hourly |
| Product temperature | ≤ −18 °C core at packing and at dispatch | Probe thermometer, per pallet | Every lot |

## 3. Chemical specification and declarations

| Parameter | Specification | Method | Frequency |
|---|---|---|---|
| Blanching | Peroxidase test negative | Codex guaiacol method / IS 4624 | Every lot |
| Sulphites | Not used; $SO_2$ not detected (< 10 mg/kg) | Monier-Williams / ion chromatography | Six-monthly external |
| Additives | None — no preservatives, colours, sulphites or processing aids | Declaration | — |
| Pesticide residues | Grown under Sunshine's package of practices: approved-input list issued to every contract farmer, pre-harvest intervals controlled plot by plot, spray records held per plot. Within FSSAI limits and, for export, the MRLs of Reg. (EC) 396/2005 or the destination market. Multi-residue screen by a NABL-accredited laboratory each crop season; per-lot analysis on request. | NABL laboratory | Per season |
| Heavy metals | Lead ≤ 0.10 mg/kg; cadmium ≤ 0.10 mg/kg (root and tuber vegetables) — Codex CXS 193 / Reg. (EU) 2023/915 / FSSAI | ICP-MS, NABL laboratory | Six-monthly |
| Allergens | None of the allergens listed by FSSAI or in Annex II of Reg. (EU) 1169/2011 present; no allergenic materials handled on the line | Declaration | — |
| GMO / irradiation | Non-GMO; not irradiated | Declaration | — |
| Dietary status | Vegan and vegetarian; suitable for Halal and Kosher diets by nature | Declaration | — |

## 4. Microbiological specification (product as dispatched)

| Organism | Limit | Method | Frequency |
|---|---|---|---|
| Aerobic plate count (30 °C) | ≤ $5 \times 10^5$ cfu/g | ISO 4833-1 | Every lot |
| Enterobacteriaceae | ≤ $1 \times 10^3$ cfu/g | ISO 21528-2 | Every lot |

| Organism | Limit | Method | Frequency |
|---|---|---|---|
| Escherichia coli | < 10 cfu/g | ISO 16649-2 | Every lot |
| Coagulase-positive staphylococci | ≤ $1 \times 10^2$ cfu/g | ISO 6888-1 | Every lot |
| Yeasts and moulds | ≤ $5 \times 10^3$ cfu/g | ISO 21527-1 | Every lot |
| Bacillus cereus | ≤ $1 \times 10^3$ cfu/g | ISO 7932 | Monthly |
| Clostridium perfringens | ≤ $1 \times 10^2$ cfu/g | IS 5887 (Part 4) | Six-monthly |
| Salmonella spp. | Absent in 25 g | ISO 6579-1 | Every lot |
| Listeria monocytogenes | Absent in 25 g | ISO 11290-1 | Every lot |
| Escherichia coli O157:H7 | Absent in 25 g | ISO 13136 | Six-monthly |
| Vibrio cholerae | Absent in 25 g | ISO 21872-1 | Six-monthly |

*"Every lot" parameters are reported on the Certificate of Analysis issued with each lot; the remainder are verified by an external NABL-accredited laboratory. Tighter customer limits can be agreed per contract.*

## 5. Nutritional information (typical values per 100 g)

| Energy | Fat | of which saturates | Carbohydrate | of which sugars | Fibre | Protein | Salt |
|---|---|---|---|---|---|---|---|
| 380 kJ / 91 kcal | 0.1 g | 0 g | 20.5 g | 0.9 g | 2.3 g | 2.2 g | 0.02 g |

## 6. Packaging, palletisation and container loading

| Format | Primary pack | Case | Cases / pallet ISO / Euro | Net per pallet ISO / Euro | Net per 40′ HC ISO / Euro |
|---|---|---|---|---|---|
| Export bulk 10 kg | 10 kg in blue food-grade LDPE liner | 5-ply carton 400 × 300 × 160 mm | 108 / 96 | 1,080 / 960 kg | 21.6 / 22.1 MT |
| Export bulk 25 kg | 25 kg in LDPE liner | Carton or PP-woven bag 600 × 400 × 180 mm | 45 / 36 | 1,125 / 900 kg | 22.5 / 20.7 MT |
| Foodservice 4 × 2.5 kg | 4 × 2.5 kg printed PE bags | Carton 400 × 300 × 180 mm | 99 / 88 | 990 / 880 kg | 19.8 / 20.2 MT |
| Retail 1 kg | Pillow pouch, EAN-13, private label | Carton 10 × 1 kg, 400 × 300 × 200 mm | 90 / 80 | 900 / 800 kg | 18.0 / 18.4 MT |
| Retail 400 g / 500 g | Pillow pouch, EAN-13, private label | Carton 20 × 400 g (8 kg) or 20 × 500 g (10 kg) | 90 / 80 | 900 / 800 kg | 18.0 / 18.4 MT |
| Domestic bulk 30 kg | 30 kg in LDPE liner, HDPE woven bag, stitched | India only | 40 / 32 | 1,200 / 960 kg | — |

Pallets: ISPM-15 heat-treated wood — ISO 1000 × 1200 mm (GCC, Southeast Asia, India), Euro 800 × 1200 mm (EU / UK), GMA 48 × 40 in (North America); maximum height 2.2 m; stretch film, four corner boards, top cap; GS1-128 pallet label with SSCC. Container figures are for a 40′ High-Cube reefer, 20 ISO or 23 Euro pallet positions, subject to the destination's road-weight limit. Octabin 1,000 kg on request. Case marking: product and cut, net weight, lot code, manufacture and best-before dates, storage instruction, "Cook before consumption", "Product of India", manufacturer and FSSAI licence, ITF-14; consumer packs carry EAN-13 and destination-market label text.

## 7. Shelf life, storage and dispatch

| | |
|---|---|
| **Shelf life** | Bulk and foodservice packs: 24 months from the date of manufacture at ≤ −18 °C. Retail consumer packs: 12 months from the date of packing at ≤ −18 °C. Do not refreeze after thawing. |
| **Storage** | Held at −18 °C in Sunshine's 3,600 MT frozen store with continuous temperature monitoring; FIFO by lot. |
| **Dispatch** | Product core ≤ −18 °C, probed per pallet. Export containers are pre-trip inspected, stuffed and sealed at the Sunshine plant, set at −18 °C (−20 / −21 °C on instruction), vents closed, fitted with three temperature dataloggers whose IDs appear on the packing list, and railed from ICD Dadri to Mundra or Nhava Sheva (JNPT). Seal, setpoint and load photographs accompany the shipping advice. |
| **Terms and documents** | FOB Mundra / Nhava Sheva; CFR, CIF or DAP on request. Commercial invoice, packing list, bill of lading, certificate of origin, Certificate of Analysis per lot, and health or phytosanitary certificates where the destination requires them. |

## 8. Traceability, quality assurance and contact

| | |
|---|---|
| **Lot code** | Every pack carries a lot code (format L1 C1 DD M YY NNN: line, product code, day, month, year, batch) that resolves in Sunshine's traceability system to the farmer and plot, sowing and harvest dates, the plot's inputs and spray records, the cold-store chamber and the IQF production run. Records are retained for the shelf life plus one year. |
| **Quality system** | FSSC 22000 (GFSI-recognised) certified food safety management system; FSSAI licences 12724999000263 and 12721054000020; APEDA registered exporter (RCMC) and IEC holder. Metal detection on every pack (Fe 1.0 mm, non-Fe 1.2 mm, stainless 1.8 mm test pieces). Certificate of Analysis with every lot; retention samples held for the shelf life; customers notified 30 days before any change to this specification. |
| **Export desk** | Sagar Deswal, CEO · +91 80779 24395 (WhatsApp) · sagardeswal@sunshinevegetables.com · 09:00–19:00 IST, Monday to Saturday |