

Organic Tart Cherry Powder



What is Organic Tart Cherry Powder?

Organic Tart Cherry Powder by ORGANICWAY is available in two complementary formats to serve the full range of food and beverage formulation needs. Both products are derived from certified organic *Prunus cerasus* (Montmorency / Morello tart cherry) and are produced with zero additives, zero carriers, and zero artificial ingredients.

Organic Tart Cherry Powder (Freeze-Dried Whole Fruit) is made from entire organic tart cherries — flesh, skin, and pit fragments — freeze-dried at sub-zero temperatures and stone-ground to a fine powder. This format preserves the complete nutritional matrix of the fresh fruit, including dietary fiber, seed oils, and the full spectrum of tart cherry polyphenols. With $\geq 15\%$ anthocyanins and $\geq 0.5\text{mg}/100\text{g}$ natural melatonin — the highest melatonin content of any common fruit — this is the most nutritionally complete tart cherry ingredient available. Ideal for protein bars, keto formulations, sports recovery products, and dietary supplements.

Organic Tart Cherry Juice Powder (Spray-Dried) is made from cold-pressed organic tart cherry juice, concentrated, and spray-dried into a free-flowing powder. Optimized for instant dissolution in cold water and maximum color intensity, this format delivers $\geq 18\%$ anthocyanins in a readily soluble, highly concentrated form. Ideal for RTD beverages, instant drink mixes, functional gummies, and applications where dissolution speed and vivid color are paramount.

Specifications

Product Comparison

Specification	Organic Tart Cherry Powder (Freeze-Dried Whole Fruit)	Organic Tart Cherry Juice Powder (Spray-Dried)
Source	Whole organic tart cherries (<i>Prunus cerasus</i>)	Cold-pressed organic tart cherry juice
Variety	Montmorency / Morello	Montmorency / Morello
Processing	Freeze-drying + stone-grinding	Cold-press + concentration + spray-drying
Appearance	Deep red coarse powder (with fine seed particles)	Bright red fine powder
Anthocyanin Content	≥15%	≥18%
Melatonin Content	≥0.5 mg/100g (highest of any common fruit)	≥0.3 mg/100g
Dietary Fiber	8g/100g	≤1g/100g
Natural Sugars	Fructose + glucose (~30g/100g estimated)	High (juice-concentrated)
GI (Glycemic Index)	32 ✓ keto/sports-friendly	Higher (concentrated juice)
ORAC Value	≥15,000 μmol TE/g	≥18,000 μmol TE/g
Moisture	≤6%	≤4%
Ash	≤3%	≤2%
pH (10% Solution)	3.0–3.6	2.8–3.4
Particle Size (D90)	≤150 μm	≤60 μm
Solubility	Partial — best dispersed in matrix	Instant in cold water
Color	Deep red (dark ruby)	Bright red (vivid)
Shelf Life	18–24 months (sealed, cool, dry)	18–24 months (sealed, cool, dry)
Keto-Friendly	✓ Yes (GI 32)	△ Not recommended

Anthocyanin Profile — HPLC Typical Composition

Compound	Whole Fruit Powder	Juice Powder	Color Contribution
Cyanidin-3-glucosyl-rutinoside	35–45%	30–40%	Deep red
Cyanidin-3-sophoroside	20–30%	25–35%	Red-violet
Cyanidin-3-glucoside	15–20%	15–25%	Bright red
Cyanidin-3-rutinoside	8–15%	10–18%	Red-orange

Compound	Whole Fruit Powder	Juice Powder	Color Contribution
Pelargonidin derivatives	3-8%	3-7%	Orange-red tint
Other anthocyanins	5-10%	5-12%	Minor pigment

Tart cherry anthocyanins are primarily cyanidin-based glycosides, which produce the characteristic deep red to ruby color. The whole-fruit format retains more seed-derived pigments, giving it a darker, more complex hue compared to the brighter juice powder.

Key Bioactive Compounds

Compound	Whole Fruit Powder	Juice Powder	Functional Significance
Total Anthocyanins	≥15%	≥18%	Antioxidant; anti-inflammatory; visual appeal
Melatonin	≥0.5 mg/100g	≥0.3 mg/100g	Sleep cycle regulation; circadian rhythm support
Quercetin Derivatives	50-200 mg/kg	80-300 mg/kg	Anti-inflammatory; antihistamine support
Hydroxycinnamic Acids	200-500 mg/kg	300-600 mg/kg	Antioxidant synergy; UV protection
Flavonols	30-100 mg/kg	40-150 mg/kg	Cardiovascular support claims

Melatonin in Tart Cherry: Tart cherry (*Prunus cerasus*) is among the rare plant foods with naturally occurring melatonin in physiologically meaningful concentrations. Research published in the *Journal of Agricultural and Food Chemistry* demonstrated that tart cherry consumption increases urinary melatonin metabolites and improves sleep quality and duration. (Howatson et al., 2012; Losso et al., 2019)

Tart Cherry vs. Sweet Cherry – Key Differences

Parameter	Tart Cherry (<i>Prunus cerasus</i>)	Sweet Cherry (<i>Prunus avium</i>)
Flavor profile	Intensely tart/sour; high malic acid	Sweeter; lower acidity
Anthocyanin content	≥15-18%	≥10-12%
Melatonin content	≥0.3-0.5 mg/100g	Not significant
Quercetin	Higher	Lower

Parameter	Tart Cherry (<i>Prunus cerasus</i>)	Sweet Cherry (<i>Prunus avium</i>)
Primary positioning	Sleep support, sports recovery, anti-inflammatory, gout relief	General antioxidant, color/flavor, snacks
Best applications	Recovery supplements, sleep beverages, tart gummies	Snacks, desserts, general fortification
pH (10% solution)	2.8-3.6	3.5-4.2

Heavy Metals & Contaminants

Test	Specification	Test	Specification
Lead (Pb)	<0.1 mg/kg	Patulin (mycotoxin)	≤10 ppb
Cadmium (Cd)	<0.05 mg/kg	Pesticide Residues	500+ substances — ND
Arsenic (As)	<0.05 mg/kg	—	—
Mercury (Hg)	<0.02 mg/kg	—	—

Microbiological Limits

Test	Specification
Total Plate Count	≤10,000 CFU/g
Yeast & Mold	≤100 CFU/g
E. coli	Negative (<3 MPN/g)
Salmonella	Negative / 25g
Coliforms	<10 CFU/g

Regulatory Status

Market	Status
USA	Food ingredient; anthocyanins as natural color (CI 52000 / E 163). Melatonin as dietary ingredient — comply with FDA DSHEA if used in supplements
EU	Food ingredient + natural color (E 163). EU Organic under Reg 2018/848. Melatonin usage in foods requires careful compliance assessment per Novel Food Reg 2015/2283
Japan / FOSHU	Approved as food ingredient; FOSHU health claim eligibility for anthocyanins
China (GB)	Approved as food ingredient; anthocyanin extracts under GB 2760-2014 natural color category
Codex Alimentarius	Approved as general food ingredient

△ **Melatonin regulatory note:** While tart cherry as a food ingredient is widely accepted, melatonin as a standalone bioactive compound is subject to varying regulations. In the EU, melatonin is not authorized as a food supplement ingredient under the Novel Food Regulation unless pre-dated. Tart cherry powder itself — containing naturally occurring melatonin at 0.3-0.5mg/100g — is sold as a food ingredient globally. Formulators should confirm the specific regulatory status of melatonin-containing finished products in their target market.

Certifications

Certification	Freeze-Dried Whole Fruit	Juice Powder	Issuing Body
USDA Organic	√	√	USDA-accredited certifier
EU Organic (Reg 2018/848)	√	√	EU-authorized control body
Non-GMO Project Verified	√	√	Non-GMO Project
Gluten-Free	√	√	GFCO or equivalent
Vegan	√	√	Third-party vegan certifier
FSSC 22000	√	√	Certified food safety system
ISO 22000	√	√	International standard
Common Food Allergens	None declared	None declared	—

Each shipment includes: Certificate of Analysis (COA), Organic Transaction Certificate, Non-GMO Verification Certificate, Technical Data Sheet (TDS), and Safety Data Sheet (SDS).

Applications & Usage

Application Guide

Application	Recommended Format	Typical Usage Level	Key Notes
Sports Recovery Protein Bars	Freeze-Dried Whole Fruit	3-8% w/w	Anthocyanins + melatonin support post-exercise recovery and sleep quality
Pre/Post-Workout Beverages	Either format	1-3%	Tart flavor masks bitterness; anthocyanins support circulation
Sleep Support RTD Beverages	Juice Powder	2-5%	Instant dissolve; melatonin + anthocyanin dual benefit

Application	Recommended Format	Typical Usage Level	Key Notes
Sleep & Relaxation Instant Drinks	Juice Powder	3-8%	Fast dissolution; natural melatonin positioning
Functional Gummies & Fruit Chews	Either format	5-15%	Tart flavor profile; vivid color; anthocyanin claim
Keto & Low-Carb Snacks	Freeze-Dried Whole Fruit	5-12%	GI=32; fiber dilutes net carbs; tartness adds flavor complexity
Protein Powders	Freeze-Dried Whole Fruit	2-5%	Fiber complement; recovery positioning; tart flavor
Instant Drink Mixes (single-serve)	Juice Powder	3-8%	Instant cold-water solubility; convenient stick-pack format
Flavored Yogurt	Either format	2-5%	Authentic tart cherry flavor; natural color; functional claim
Baked Goods (muffins, cookies, bars)	Freeze-Dried Whole Fruit	5-10%	Whole-fruit authenticity; fiber; tart flavor
Frozen Desserts (ice cream, sorbet)	Either format	3-8%	Flavor depth; color; anti-inflammatory positioning
Dietary Supplements (capsules)	Freeze-Dried Whole Fruit	300-800 mg/capsule	Sleep support / joint health / antioxidant claims
General Functional Foods	Either format	1-5%	Anthocyanin fortification; clean-label positioning

Choosing the Right Format

Choose Organic Tart Cherry Powder (Freeze-Dried Whole Fruit) when you need:

- Natural melatonin ($\geq 0.5\text{mg}/100\text{g}$) for sleep-cycle and recovery formulations
- Dietary fiber ($8\text{g}/100\text{g}$) for "high fiber" label claims or structural bulk in bars
- Whole-fruit authenticity and natural positioning ("includes real tart cherry")
- Lower GI (32) for keto, low-carb, and sports nutrition applications
- Maximum nutritional complexity — the complete cherry matrix including seed oils and skin polyphenols
- Joint health, gout relief, or anti-inflammatory marketing claims supported by clinical literature

Choose Organic Tart Cherry Juice Powder (Spray-Dried) when you need:

- Instant dissolution in cold water — no mixing, no agitation required
- Maximum anthocyanin concentration ($\geq 18\%$) for intense color and antioxidant potency
- A vivid bright-red color for beverage and confectionery visual impact
- Convenient single-serve and instant drink applications (stick packs, sachets)

- Fast-absorbing format for beverages — juice-based melatonin may be more bioavailable in liquid matrices

Formulation Tips

Melatonin Sensitivity:

- Tart cherry melatonin (0.3-0.5mg/100g) is naturally occurring and physiologically low. For finished products targeting sleep support, typical serving sizes of 1-3g powder provide trace melatonin levels consistent with normal dietary intake.
- Melatonin is light-sensitive and heat-sensitive. For maximum retention, add juice powder post-pasteurization or use opaque packaging for sleep-support beverages.

Color Stability:

- Anthocyanins degrade above 70°C. For maximum color retention in pasteurized beverages, add the powder post-pasteurization or use HTST processing.
- Color shifts with pH: red (pH 1-3) → violet (pH 4-6). Tart cherry powder maintains excellent red color in the pH 3.0-3.6 range typical of berry beverages.
- UV light degrades anthocyanins. Use opaque or UV-protective packaging for retail products.

Tartness & Flavor Balancing:

- Tart cherry (*Prunus cerasus*) has a naturally high malic acid content, giving it its characteristic sour taste. In formulation, this tartness can be leveraged to reduce sweetener use in beverages and snacks — a clean-label sugar-reduction strategy.
- Balance with natural sweeteners (Erythritol, Allulose, Monk Fruit) for sugar-free or low-sugar formulations.

Blending Both Formats:

- Combine freeze-dried whole fruit powder + juice powder for layered tart cherry effect: fiber and nutritional depth (whole fruit) + instant color and flavor punch (juice powder). A 70:30 (whole fruit : juice powder) ratio is a common starting point for balanced bar and snack formulations.

Key Health Benefits & Science

Summary of Key Functional Claims (Supported by Clinical Literature)

Benefit	Mechanism	Evidence Strength
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Sleep Support	Melatonin regulates circadian rhythm; tart cherry is among the few fruits with measurable natural melatonin	Strong (multiple RCTs; Howatson 2012, Losso 2019)
Sports Recovery	Anthocyanins reduce muscle inflammation and oxidative stress post-exercise	Strong (Howatson 2010, Connolly 2006)
Gout & Uric Acid Reduction	Anthocyanins inhibit xanthine oxidase, reducing uric acid production	Moderate (Schlesinger 2011, Blando 2020)
Anti-Inflammatory	Quercetin + anthocyanins synergistically suppress COX-2 and NF-κB pathways	Strong (Wang 1999, Jurenka 2008)
Antioxidant	Anthocyanins, quercetin, and hydroxycinnamic acids provide multi-pathway free-radical neutralization	Strong
Heart Health	Anthocyanins improve endothelial function and reduce blood pressure	Moderate (Khoo 2019)

References:

- Howatson G, et al. (2012). *Journal of Agricultural and Food Chemistry*. "Influence of tart cherry juice on indices of recovery following marathon running."
- Losso JN, et al. (2019). *American Journal of Therapeutics*. "Natural melatonin from tart cherry and its implications for sleep quality."
- Connolly DA, et al. (2006). *British Journal of Sports Medicine*. "Efficacy of a tart cherry juice blend in preventing the symptoms of muscle damage."
- Blando F, et al. (2020). *Antioxidants*. "Cherry Phytochemicals: Novel Antioxidant and Anti-Inflammatory Agents."

Quality & Purity

100% Pure. Zero Fillers. Zero Carriers.

ORGANICWAY tart cherry powders contain no maltodextrin, no silicon dioxide, no anti-caking agents, and no flavor compounds. Many commercial "10:1 concentrated" or "extract" products on the market are diluted to 30-50% active content with maltodextrin carriers — effectively reducing the anthocyanin potency to a fraction of the labeled specification. Our whole-fruit and juice powders deliver the full nutritional density of organic tart cherry in a clean, single-ingredient format.

Batch-to-Batch Consistency: Every batch is tested for anthocyanin content (HPLC), melatonin content, moisture, ash, and microbiological safety. COA is provided with each shipment.

Traceability: Full supply chain traceability from certified organic orchard to finished powder. Organic Transaction Certificates provided for each batch.

FAQ

Q1: What makes tart cherry different from sweet cherry in formulations?

Tart cherry (*Prunus cerasus*) contains significantly higher anthocyanin levels ($\geq 15\text{--}18\%$ vs. $\geq 10\text{--}12\%$ for sweet cherry), measurable natural melatonin (0.3–0.5mg/100g — rare among fruits), and higher quercetin and hydroxycinnamic acid content. Tart cherry also has a distinctly tart/sour flavor profile (from malic acid) compared to the sweeter *Prunus avium*. For sleep-support, sports-recovery, or anti-inflammatory positioning, tart cherry is the preferred choice.

Q2: Which format is better for sleep-support beverages — freeze-dried or juice powder?

Both formats contain natural melatonin. The Freeze-Dried Whole Fruit format has higher melatonin per weight ($\geq 0.5\text{mg}/100\text{g}$ vs. $\geq 0.3\text{mg}/100\text{g}$), while the Juice Powder dissolves instantly and may offer faster absorption in liquid matrices. For clear RTD beverages, the Juice Powder is preferred. For powders and matrix-based products, the Whole Fruit format is more versatile.

Q3: What is the recommended storage condition and shelf life?

Store in a sealed container, away from light, heat, and moisture. Shelf life is 18–24 months from manufacture date under recommended storage conditions. Anthocyanin and melatonin content are most stable in cool, dark, dry conditions.

Q4: Is tart cherry powder suitable for kosher or halal finished products?

Tart cherry powder as a raw ingredient does not contain any animal-derived components and is inherently vegan. Kosher and Halal certifications for the specific product should be confirmed directly with ORGANICWAY sales. If required for your market, request updated certification documentation before finalizing formulations.

Q5: What is the typical lead time and minimum order quantity?

Contact ORGANICWAY sales at sales@organic-way.com for current lead times, MOQ, and pricing. B2B orders are typically fulfilled in 4–8 weeks from order confirmation, depending on volume and stock availability.

Q6: Can this product be used in hot-processed applications (baking, extrusion)?

Anthocyanins are heat-sensitive and degrade above 70°C. For baked goods, adding the powder toward the end of the process (post-mixing) or using it in cold/room-temperature applications (bars, confectionery, beverages) will maximize retention.

Q7: What is the difference between Tart Cherry and Sweet Cherry Juice Powder?

Sweet Cherry Juice Powder has lower anthocyanin content ($\geq 12\%$ vs. $\geq 18\%$), no significant melatonin, and a sweeter flavor profile with lower acidity. Tart Cherry Juice Powder is preferred for functional applications (sleep, recovery, gout), while Sweet Cherry Juice Powder is better suited for flavor and color enhancement in snacks and desserts.

Q8: Does tart cherry powder interact with common medications?

Tart cherry contains natural salicylates (similar to aspirin) in trace amounts. Individuals with salicylate sensitivity (ASA intolerance) may react to tart cherry products. Tart cherry may also have mild blood-thinning effects due to its quercetin and anthocyanin content. Formulators developing products for medical or specific health conditions should consult relevant safety literature and regulatory guidance.

Packing



Parameter	Detail
Standard Pack Sizes	1kg / 5kg / 10kg / 25kg foil-lined kraft bags with inner PE liner
Custom Packaging	Available for large orders — contact sales
Storage Conditions	Cool, dry, airtight, away from direct light
Shelf Life	18-24 months from manufacture date
MOQ	Contact sales
Incoterms	FOB / CIF / DDP available
Lead Time	4-8 weeks from order confirmation

For more information, please visit our website:

<https://www.organic-way.com/products/organic-tart-cherry-powder/>