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SAMPLE REPORT

MANUFACTURING COST ANALYSIS

Sample product: Collapsible Travel Pet Bowl

Report no. IPS-MCA-SAMPLE | Prepared for: Sample Client | October 2026 | 10 pages

This is a sample for illustration. The product and the client are made up, and every number is an example, not a quote. A real analysis is built around your product, your materials and current factory pricing.

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EXECUTIVE SUMMARY

The Collapsible Travel Pet Bowl is a pop-up bowl for dogs and cats: it holds food or about 20 fl oz of water, folds flat to 0.6 in and clips to a leash or bag. This analysis prices a first controlled production run of **two approval samples plus 500 finished units**, made by a single China-based molding supplier and sent to the US by courier.

With the recommended Option A (food-grade silicone), the first-order program costs **\$5,936.12** landed, including the mold, samples and lab testing. That is \$11.87 per unit for this first order. Once the mold is paid for, reorders land at **\$5.89 per unit** at 500 pieces and \$4.25 at 1,000.

Program scope	2 approval samples + 500 production units
Manufacturing model	China-based single supplier; one molded part, no assembly; courier delivery
Supplier role	Makes the mold, molds, inspects and packs the complete bowl
Options compared	A: food-grade silicone B: TPE wall on a rigid PP rim
Recommended option	A: food-grade silicone (lowest upfront cost, premium feel)
First-order program total	A: \$5,936.12 B: \$12,995.79 (incl. molds, samples, tests)
Landed cost per unit, first order	A: \$11.87 B: \$25.99 (one-time costs included)
Landed cost per unit, reorders	A: \$5.89 at 500, \$4.25 at 1,000 B: \$4.22 at 500, \$3.12 at 1,000

RECOMMENDED PILOT Option A Food-grade silicone, 500 units	FIRST-ORDER TOTAL \$5,936 Mold, samples, tests + 500 units	REORDER LANDED COST \$5.89 Per unit at 500; \$4.25 at 1,000	TIME TO STOCK 8-10 wks Mold to your door, by courier
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This document shows the baseline manufacturing program, development and freight reserves, a courier freight reference and preliminary tariff references. In a real analysis, final duties, taxes and import costs are confirmed with the customs broker before the report is released to the client.

HOW TO READ THIS REPORT

- **Option A** and **Option B** are two ways to make the same product. Every section compares them.
- **One-time costs** (mold, samples, lab tests) are paid once. Everything else repeats with every order.
- **Landed cost per unit** is the real cost of one unit sitting at your door. Price from this, not from the factory's unit price.

PROJECT OVERVIEW

The client wants to launch online and in local pet boutiques, keep upfront cash low and sell at about \$16.99 retail. The scope of this analysis is two approval samples and one controlled production batch of 500 units, with the bowl, its retail sleeve and master cartons supplied under one manufacturing contract.

PRODUCT CONFIGURATION

BOWL BODY

One molded body with three fold rings that nest inside each other. Opens to 2.4 in deep, folds to 0.6 in. Food-safe and dishwasher-safe.

BASE

A textured non-slip ring on the bottom so the bowl doesn't slide on floors or car seats.

RIM AND CLIP LOOP

A rim that keeps the bowl round when open, with a clip loop molded into it for a leash or bag. Option A molds it in silicone; Option B uses a rigid PP rim.

PACKAGING

Folded flat in a printed kraft sleeve with a barcode, 50 units per master carton.

For this analysis the approval samples are assumed complete and working: molded body, rim, clip loop, base ring and retail sleeve, matching the intended retail product.

MANUFACTURING ARCHITECTURE

Manufacturer	Makes the mold, molds the bowl, trims, post-cures, inspects, and packs it into sleeves and master cartons.
Test lab	Food-contact and Prop 65 testing on the approved material, before production starts.
Shipping / courier	Courier freight door to door; about 95 kg chargeable weight, 8-10 day transit.
IPS / project management	Supplier sourcing and alignment, sample approval, cost-model review, supplier follow-up and final tariff and import checks.

MANUFACTURING PROCESS FLOW

- 1 Confirm the final design: material, fold rings, wall thickness, colors and logo.
- 2 The supplier builds the mold and makes two approval samples in the chosen color.
- 3 IPS and the client check the samples for fit, fold action, feel, finish, smell and packaging.
- 4 The approved material goes to the lab for food-contact testing.
- 5 On approval, the supplier runs the 500-unit batch under the confirmed cost structure.
- 6 In-line checks during production: wall thickness, fold test, color match and packaging.
- 7 Finished goods ship by courier to the client's US address; duties are confirmed by the broker.

1. MATERIAL OPTIONS AND OPTIMIZATION

Material is the biggest single choice in this product. It sets how the bowl feels, how long the fold lasts, what kind of mold the factory needs and how much each unit costs. We asked two factories to quote the two options that fit the brief.

OPTION A: 100% FOOD-GRADE SILICONE

- Feel: soft, premium and grippy. Folds and pops back without creasing.
- Tooling: compression mold. Simple and low cost, ready in about 2-3 weeks.
- Unit cost: higher. Silicone often runs 2 to 3 times the cost of TPE per kilo.
- First order: factories accept 300-500 units.
- Best for: a premium price and a small first order.

OPTION B: TPE WALL + RIGID PP RIM

- Feel: lighter, with a stiff rim that holds its round shape.
- Tooling: two steel injection molds (rim, then the TPE wall molded onto it).
- Unit cost: lower, and drops faster as order size grows.
- First order: factories prefer 1,000+ units; 500 is possible at a higher price.
- Best for: mass-market pricing and big repeat orders.

SIDE-BY-SIDE COMPARISON

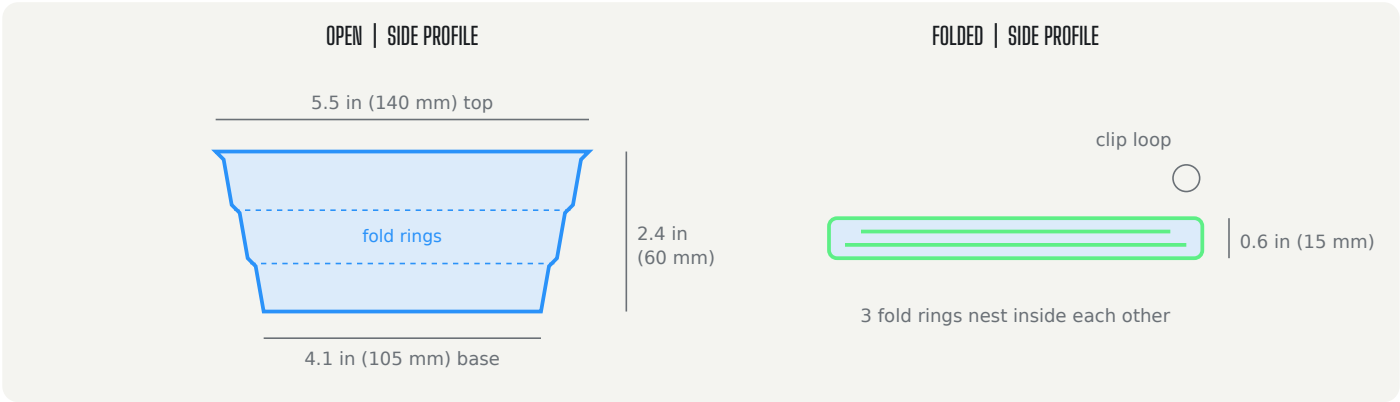
	A: SILICONE	B: TPE + PP RIM
Material	Food-grade silicone, 50 Shore A	TPE wall, polypropylene (PP) rim
Fold life (factory test)	10,000+ folds	5,000+ folds
Heat range	-40 to 446 °F, dishwasher-safe	Up to 212 °F, top-rack dishwasher
Odor and taste	None after post-cure	Low with a food-grade TPE compound
Mold type and life	Compression, about 300,000 cycles	Injection x2, about 1,000,000 cycles
Material cost index	100 (baseline)	about 45
Smallest practical order	300-500 units	1,000 units (500 at a premium)

MATERIAL OPTIMIZATION

Guideline: use a standard food-grade silicone from the factory's stock. **Adjustment:** the original spec asked for platinum-cure silicone. It adds about \$0.15 per unit and only matters if you want to market it as "platinum silicone". Standard grade passes the same food-contact test. **Estimated saving: \$0.15/unit, about \$75 on the pilot.**

2. GEOMETRY AND DESIGN FOR MANUFACTURING

Both options use the same shape, so one set of drawings works for either factory. Below is the bowl open and folded, then the design changes we made so it molds cleanly and costs less.



KEY DIMENSIONS (BOTH OPTIONS)

Diameter at rim	5.5 in (140 mm)	Usable capacity	20 fl oz (about 600 mL)
Diameter at base	4.1 in (105 mm)	Wall thickness	A: 1.2 mm B: 1.0 mm wall, 2.0 mm rim
Height, open	2.4 in (60 mm)	Fold rings	3 (living hinges 0.8 mm thick)
Height, folded	0.6 in (15 mm)	Weight	A: 5.8 oz (165 g) B: 4.6 oz (130 g)

FINDINGS THAT CHANGE THE DESIGN

ORIGINAL DESIGN	ADJUSTMENT	EFFECT
4 fold rings	3 fold rings, same open height	Shallower mold, faster cure. -\$0.06/unit
Walls 0.9 to 1.6 mm	Even 1.2 mm wall, thin 0.8 mm hinges	Even curing, rejects about 6% to 3%
Separate metal clip ring	Clip loop molded into the rim	One less part and step. -\$0.08/unit
Printed logo on the side	Logo debossed in the mold	No print step. -\$0.12/unit
Custom-matched colors	Factory standard colors	No color-match fee. -\$150 per color
Rigid box packaging	Printed sleeve, packed flat	40% more per carton. -\$0.20/unit

Together these changes save about **\$0.46 per unit** (about \$230 on a 500-unit order) plus the color-match fees, before any price negotiation. They are already included in the costs on page 8.

3. PARTS LIST AND FEATURES

Every part of the product, what it's made of, and whether the factory makes it or buys it in. This is the list a factory quotes from.

NO.	PART	QTY	MATERIAL	MAKE / BUY	WALL	NOTES
1	Bowl body	1	A: food-grade silicone, 50 Shore A B: food-grade TPE	A: compression molded B: overmolded	A: 1.2 mm B: 1.0 mm	3 fold rings, 0.8 mm hinges
2	Rim	1	A: same silicone (one piece) B: polypropylene (PP)	A: molded in B: injection molded	2.0 mm	Keeps the bowl round when open
3	Clip loop	1	Same as rim	Molded in	3.0 mm	Fits a leash, bag or carabiner
4	Non-slip base ring	1	A: textured silicone B: TPE	Molded in	1.5 mm	Grip on floors and car seats
5	Logo	-	Debossed in the mold	Molded in	0.3 mm deep	No print step
6	Retail sleeve	1	350 gsm kraft board, 1-color print	Buy	-	Barcode printed on the sleeve
7	Master carton	1 / 50	5-ply corrugated	Buy	-	Shipping marks, 15 x 12 x 10 in

Option B has one more molded part (the PP rim) but still needs no hand assembly: the TPE wall is molded straight onto the rim.

FEATURES AND ADD-ONS

FEATURE	A: SILICONE	B: TPE + PP RIM	COST EFFECT
Clip loop on the rim	Molded in	Molded into the PP rim	Included
Non-slip base ring	Molded texture	TPE ring on the base	Included
Aluminum carabiner	Optional	Optional	+\$0.18/unit
Snap-on travel lid	Not offered	Optional (extra mold \$1,900)	+\$0.32/unit
2-pack bundle	Two bowls in one sleeve	Two bowls in one sleeve	+\$0.04/pack

The costs in this report include the molded clip loop and non-slip ring only. Add-ons are priced so you can decide later.

Why the parts list matters. Factories quote from what is written down. A complete parts list with materials and wall thicknesses means every factory prices the same product, so quotes can be compared line by line, and there are fewer surprises when the samples arrive.

4. TOLERANCES, QUALITY AND TESTING

TOLERANCES AND PRINTING

SPEC	TOLERANCE	WHY IT MATTERS
Overall diameter and height	±0.5 mm	Bowls stack and fit the sleeve
Wall thickness	±0.15 mm	Even folding; thin spots tear first
Hinge thickness	±0.1 mm	Sets how easily it pops open and shut
Logo deboss depth	0.3 mm ±0.05 mm	Reads clearly, cleans easily
Color match	Matches the approved sample	Same color on every reorder

ASSEMBLY AND FINISHING

- **A:** one molded piece. Trim the flash, post-cure 4 hours (removes odor), inspect, fold, sleeve.
- **B:** mold the PP rim, then mold the TPE wall onto it (overmolding). No glue or hand assembly.
- Pack 50 folded bowls per carton with shipping marks.
- Barcodes are printed on the sleeve, so there are no labels to apply.

QUALITY CONTROL PLAN

- Approve a golden sample before production. The factory matches it.
- Fold test: 500 open/close cycles on 5 samples per batch, no tears or whitening.
- Dishwasher test: 20 cycles, no warping or color change.
- Optional third-party final inspection (AQL 2.5) before you pay the balance: about \$290 per visit, not included in the costs on page 8.

TESTING AND CERTIFICATION TO PLAN FOR (US)

AREA	WHAT IT COVERS	A	B	NOTES
Food contact	FDA food-contact requirements for each material that touches food	\$350	\$600	B has two materials to test
Chemicals	California Prop 65 screen	Incl.	Incl.	Done with the lab test above
Materials	RoHS / REACH declarations	-	-	Supplier declarations, no cost
Pet product rules	No special US certification for pet bowls	-	-	Claims like "BPA-free" must be backed by the test report

Why this section matters. Most first-order problems come from specs nobody wrote down: a wall that is too thin, a color that drifts, a logo that fills with dirt. Writing tolerances and tests into the order gives you something to hold the factory to.

5. MANUFACTURING COST BREAKDOWN

First order of **500 units** for each option. Line items are grouped into the baseline manufacturing program and the shipping, tariff and other costs, with reserves and the totals summarized below.

BASILINE MANUFACTURING PROGRAM

ITEM	QTY	A: UNIT	A: AMOUNT	B: UNIT	B: AMOUNT
Molds (tooling)	1	\$2,400.00	\$2,400.00	\$9,800.00	\$9,800.00
Approval samples	2	\$50.00	\$100.00	\$75.00	\$150.00
Production units	500	\$1.85	\$925.00	\$0.95	\$475.00
Retail packaging (printed sleeve)	500	\$0.42	\$210.00	\$0.42	\$210.00
Product dev. backup (2%)	1	\$22.70	\$22.70	\$13.70	\$13.70
Wire transfer (est.)	2	\$25.00	\$50.00	\$25.00	\$50.00
Sample express shipping	1	\$70.00	\$70.00	\$70.00	\$70.00
Food-contact lab testing	1	\$350.00	\$350.00	\$600.00	\$600.00

SHIPPING, TARIFFS AND OTHER

ITEM	QTY	A: UNIT	A: AMOUNT	B: UNIT	B: AMOUNT
Courier freight, door to door	1	\$1,083.00	\$1,083.00	\$877.80	\$877.80
Freight reserve (10%)	1	\$108.30	\$108.30	\$87.78	\$87.78
Customs broker	1	\$150.00	\$150.00	\$150.00	\$150.00
General duty (3.4%)	1	\$38.59	\$38.59	\$23.29	\$23.29
Section 301 (25%, est.)	1	\$283.75	\$283.75	\$171.25	\$171.25

PROGRAM TOTALS

SUMMARY	A: SILICONE	B: TPE + PP RIM
Baseline manufacturing program	\$4,127.70	\$11,368.70
Shipping, tariffs and other	\$1,663.64	\$1,310.12
Reserve (2.5% of manufacturing + shipping)	\$144.78	\$316.97
Landed total, first order	\$5,936.12	\$12,995.79
Landed cost per unit, first order (÷ 500)	\$11.87	\$25.99
Landed cost per unit, reorders of 500 (no one-time costs)	\$5.89	\$4.22

Bowl spec: one molded body, no custom metal parts; A 190 g and B 154 g per unit packed; 50 per carton. Duty and Section 301 are estimated on about \$1,135 (A) and \$685 (B) of product value. Illustrative numbers for a fictional product.

6. TARIFFS, SHIPPING AND VOLUME PRICING

TARIFF AND CLASSIFICATION NOTES

- Preliminary HTS reference: **3924.90.56**, household articles of plastics, other; general duty 3.4%.
- China Section 301: estimated at 25% for this sample, applied to product value. Rates change often.
- Alternate for silicone: 4016.99.60, other articles of vulcanized rubber. The customs broker confirms the final code and rates before import filing.

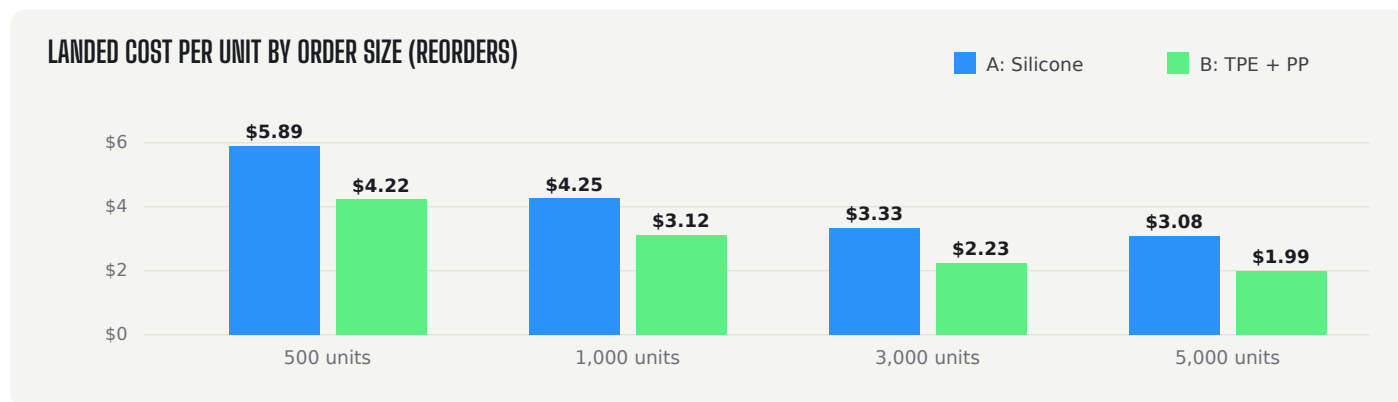
INTERNATIONAL SHIPPING AND LANDED-COST BASIS

SHIPMENT	WEIGHT	COURIER (8-10 DAYS)	SEA, SHARED CONTAINER (35-45 DAYS)
Pilot, 500 units (A)	95 kg	\$1,083 (used)	Not available: under the 100 kg minimum
Reorder, 1,000 units (A)	190 kg	\$2,166	\$1,125 (used for reorders)

Courier is the only option for the pilot: the shipment is under the 100 kg sea minimum. From about 1,000 units, sea freight costs about half as much and becomes the better choice if you can wait the extra weeks.

LANDED COST PER UNIT ON REORDERS

ORDER SIZE	500	1,000	3,000	5,000
A: factory price	\$1.85	\$1.70	\$1.55	\$1.48
A: landed per unit	\$5.89	\$4.25	\$3.33	\$3.08
B: factory price	\$0.95	\$0.85	\$0.72	\$0.66
B: landed per unit	\$4.22	\$3.12	\$2.23	\$1.99



Break-even. Option B's one-time costs are \$7,700 higher. On reorders it saves about \$1.11 per unit, so it pays for itself after about **7,000 units** in total. Until sales are near that, Option A is the safer bet.

7. RECOMMENDATION

Pilot run: Option A, food-grade silicone, 500 units. Lowest cash at risk (\$5,936 all-in for the first order), a premium feel that supports the \$16.99 price, and a supplier that's happy with small orders.

Reorders: Option A at 1,000 units, by sea. Same mold, and landed cost drops to \$4.25 per unit. **Scale-up: Option B** once total sales approach 7,000 units.

The main risk is not cost. It is sample execution. Before production, the samples must prove three things: the bowl folds and pops open cleanly after hundreds of cycles, it has no smell or taste after post-cure, and the clip loop holds the full bowl's weight without tearing.

PRICING CHECK AT \$16.99 RETAIL

	REORDER (500)	REORDER (1,000)
Landed cost per unit	\$5.89	\$4.25
Selling wholesale to boutiques at \$8.50	31% margin	50% margin
Selling direct at \$16.99, before platform and ad costs	65% gross margin	75% gross margin

TIMELINE: OPTION A PILOT

MOLD 2-3 wks	SAMPLES 1-2 wks	LAB TEST 1 wk	PRODUCTION 15-20 days	COURIER 8-10 days
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About 8-10 weeks from paying for the mold to stock at your door.

QUESTIONS FOR THE CLIENT

- Final retail price and first-order quantity? They decide between Option A and B.
- Colors for the first run: one color or a mix of the three standard colors?
- Add the carabiner or a 2-pack for launch, or keep them for a later order?

WHAT YOUR REAL ANALYSIS INCLUDES

- A product summary written the way factories read it
- Design changes that cut cost, with savings
- Tariff codes, duty estimates and testing needs
- Volume pricing and break-even
- Material options with plain-English trade-offs
- A full parts list, specs and tolerances
- Every cost line, reserves and landed cost per unit
- A pilot plan, scale-up path and timeline

WANT THESE NUMBERS FOR YOUR PRODUCT?

Start with a free idea review. We'll tell you what an analysis would cover for your product.

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