Scheduled process

Tomato-based sauce with diced peppers, seasoned (acidified)

Product name: Pattys Perky Pasta Sauce. Formula date: 01-Jun-2023

FDA food category (FDA Form 2541e Section B2): gravies/sauces (spaghetti sauce, mushroom gravy)

Pursuant to 21 CFR §108 (Emergency Permit Control), 21 CFR §114 (Acidified Foods), and 21 CFR §117 (Preventive Controls for Human Food).

Prepared for

Patty Picked a Peck of Pickled Peppers

Attn: Patty Pennypeck
123 Your St
Your City NY 12345-6789
518-012-3456
pickapeck@gmail.cpom
https://www.peckapeck.com/

Processing at

Patty's Packers

Attn: Percy Pennypeck
456 Their St
Their City WA 98765-4321
564-123-4567 ext 890
packedapeck@gmail.com
FCE Number: 34567

Date.....19-Jun-2023

Valid through.....31-Dec-2026

The "Valid through" date is intended as a best practice to be used as a means of change control and systems review.

Include this document with your Food Safety Plan.

Batch formula

20 gallon batch (changes in formula proportions require new scheduled process letter)

Ingredient	Weight (lb)	Weight %	Weight % of acid or low-acid groupings
Tomatoes, crushed, concentrated, canned, RedGold (0-72940-11013-3)[tomatoes, salt, citric acid]	97.5	57.843%	
Tomato paste, canned, RedGold (0-72940-11016-4)[tomatoes, citric acid] or equivalent	9.09	5.392%	
Lemon juice concentrate, 500 gpL, frozen, thawed	0.827	0.490%	**63.725%**
Pepper fruit, sweet red, fresh, trimmed, without seeds or stems, diced	32.2	19.118%	
Oil, olive, extra virgin	19.8	11.765%	
Onion bulbs, fresh, peeled, trimmed, diced	4.96	2.941%	
Garlic cloves, fresh, peeled, trimmed, minced	2.48	1.471%	
Basil leaves, fresh, chopped	1.65	0.980%	**36.275%**
Total	169	100.000%	**100.000%**

Preparation method (changes require new scheduled process letter)..... Critical and operating limits

1. Regarding temperature measuring devices (TMDs):
   a. Use TMDs accurate to ±2°F or closer. Identify each TMD by a unique code.
   b. Calibrate each TMD against a NIST-traceable standard at temperatures of use.
   c. Calibrate bimetal (dial-type) TMDs daily.
   d. Calibrate other TMDs regularly to assure reproducible results.
   e. Maintain a calibration log for each TMD.
2. Regarding pH meters:
   a. Use pH meter accurate to 0.01 pH unit.
   b. Use 2-point calibration with buffers at pH 4.01 and 7.00.
   c. Calibrate pH meter daily and as needed to assure reproducible results.
   d. Maintain pH calibration log that includes date, time, buffer lots, and measured pH values in buffer before correction.
3. Document results of measurement of each critical factor.

Abbreviation key
Critical limits MUST be met
CL: Critical limit
LCL: Lower critical limit
UCL: Upper critical limit

Operating limits *should* be met
L: Operating limit
LL: Lower operating limit
UL: Upper operating limit

4. Wash containers and closures. Drain and keep inverted until use.
5. Record types, sources, and quantities of all ingredients.
6. Combine all ingredients, mixing thoroughly.
7. Heat to 185°F.
8. Check product pH on a cooled homogenized sample. Record pH & temperature..... UL: pH 4.00 maximum at ambient temperature
   As necessary, adjust pH with lemon juice. Record any additional amounts & resultant pH readings.
9. Heat mixture to at least 199°F..... LL: Cook temperature: 199°F minimum
   or use an equivalent temperature-time combination (table on right).
10. Fill containers at 170°F minimum. Cap.
11. Promptly invert containers. LL: Fill temperature: 170°F minimum
12. Measure temperature of last container filled..... LCL: Fill temperature: 165°F minimum
13. Hold inverted for 90 seconds (1:30 minutes) minimum..... LL: Hold time: 90 seconds minimum
    LL: Hold time: 82 seconds minimum
14. Cool containers in ambient air. CL: Cooling condition: cool containers in ambient air without fans.
15. Measure product pH at ambient temperature. Record pH & temperature..... UL: pH 4.00 maximum at ambient temperature
    Blend entire contents of container to a uniform paste before pH measurement. UCL: pH 4.10 maximum at ambient temperature

Critical Factors (in red) (must be documented)

Finished pH.....4.10 maximum
Measured at 70±10°F

Hot fill & hold
Fill temperature.....165 °F minimum
(Temperature at end of hold.....159 °F minimum)

Inversion hold.....1:22 minutes minimum
82 seconds minimum

CC: **Cool containers in ambient air without fans.**
FC: **Changes in formula proportions require a new process.**
Batch scaling does not constitute a formula change.
PM: **Preparation method changes require a new process.**

Thermal process calculation factors

For safety

LSV for *Escherichia coli* O157:H7
F.....1.20 minutes
T_{ref}.....160.0 °F
z.....19.5 °F

Process reference:
Breidt F, Sandeep KP, Arritt FM. 2010. Use of Linear Models for Thermal Processing of Acidified Foods. Food Protection Trends 30 (5): 268-272.

For commercial sterility

maximum pH.....4.10
F.....1.00 minutes
T_{ref}.....200.0 °F
z.....16.0 °F

Process reference:
Pflug IJ. 2010. Microbiology and Engineering of Sterilization Processes, 14th ed. Otterbein IN: Environmental Sterilization Laboratory. Table 15.24, p 15.71.

Other process factors

Equivalent cook time-temperature combinations for pH ≤ 4.10

Temp (°F)	Time (h:mm:ss)	Temp (°F)	Time (h:mm:ss)	Temp (°F)	Time (h:mm:ss)
188	30:10	192	8:33	196	1:42
189	22:15	193	6:02	197	0:55
190	16:19	194	4:10	198	0:19
191	11:53	195	2:46	199	0:00

Test results

pH of low-acid ingredients (estimated).....5.45
Finished equilibrium pH.....3.92

Template revised 17 Jun 2023 (1)

Product identifiers & container characteristics

Description	GTIN-12 (UPC)	SID	Dimensions (inches-16ths) Diameter	Height
16 fl oz cylindrical glass jar with 70-450 CT metal closure (Ball 61000 or smaller)	0-12345-67891-2	2023-06-19/001	3-07	5-03
32 fl oz cylindrical glass jar with 70-450 CT metal closure (Ball 62000 or smaller)	0-12345-67892-9	2023-06-19/002	4-03	6-13

Scheduled process prepared by

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