

Tianjin TAI CHY Food Co., LTD

Determination of the shelf life of tomato sauce

The tomato sauce industry has been established for many years, and the industry commonly uses a shelf life of 2 years. Based on our group's extensive experience in the industry, a 2-year shelf life is entirely feasible. Xinjiang Jinsan Hong Tomato Products Co., Ltd., a subsidiary of our group, conducted a shelf life verification test for its tomato sauce products from January 2017 to July 2019, a period of two and a half years. The method involved taking 200 cans of the same batch produced during the same time period, storing them in the warehouse sample area (at room temperature), and measuring quality and hygiene indicators every three months, every two months after 12 months, and monthly after 18 months. The statistical data of the tests are as follows:

Time project	standard code	0 A month		3 A month		6 A month		9 A month	
		1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb
potency	28-30, %	28.50	28.49	28.53	28.56	28.47	28.53	28.57	28.38
dynamic viscosity	≤ 7 , cm/30sec	6.5	6.5	6.4	6.5	6.6	6.5	6.4	6.5
chromatic aberration	≥ 1.80	2.23	2.24	2.22	2.21	2.20	2.20	2.18	2.19
luminance	≥ 21.0	23.52	23.57	23.35	23.27	23.11	23.04	22.89	22.93
PH	4.0-4.4	4.23	4.21	4.20	4.22	4.21	4.23	4.19	4.22
mould	$\leq 50\%$	34	34	32	34	32	34	34	32
The taste of qi	normal	normal	normal	normal	normal	normal	normal	normal	normal
colour and lustre	normal	normal	normal	normal	normal	normal	normal	normal	normal

Time project	standard	12 A month	14 A month	16 A month	18 A month
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Ti ne pr - oj ect	st andar d code	19 A nont h		20 A nont h		21 A nont h		22 A nont h	
		1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb
pot ency	28-30, %	28.53	28.53	28.57	28.43	28.54	28.48	28.38	28.46
dynami c vi scosi ty	≤ 7 , cm/30sec	6.4	6.5	6.5	6.4	6.5	6.5	6.4	6.4
chr onat i c aber r at i o n	≥ 1.80	2.08	2.07	2.06	2.07	2.04	2.04	2.04	2.03
I uni nance	≥ 21.0	22.10	22.13	22.09	22.10	22.05	22.08	22.04	22.01
PH	4.0-4.4	4.21	4.22	4.21	4.19	4.22	4.21	4.23	4.21
moul d	$\leq 50\%$	34	34	32	34	32	34	34	32
The t ast e of qi	nor mal	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l
col our and l us- tre	nor mal	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l

Ti ne pr - oj ect	st andar d code	23 A nont h		24 A nont h		25 A nont h		26 A nont h	
		1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb
pot ency	28-30, %	28.45	28.39	28.37	28.50	28.39	28.48	28.46	28.57
dynami c vi scosi ty	≤ 7 , cm/30sec	6.4	6.5	6.5	6.5	6.4	6.5	6.4	6.5
chr onat i c aber r at i o n	≥ 1.80	2.03	2.01	2.00	1.98	1.96	1.97	1.93	1.95
I uni nance	≥ 21.0	21.93	22.01	21.98	21.90	21.88	21.89	21.75	21.82
PH	4.0-4.4	4.19	4.23	4.21	4.20	4.21	4.22	4.21	4.19
moul d	$\leq 50\%$	34	32	34	34	34	32	34	32
The t ast e of qi	nor mal	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l
col our and l us- tre	nor mal	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	nor ma l	It's a littl e dar k	It's a littl e dar k

Ti ne pr - oj ect	st andar d code	27 A nont h		28 A nont h		29 A nont h		30 A nont h	
		1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb	1 Nb	2 Nb
pot ency	28-30, %	28.39	28.48	28.52	28.37	28.52	28.39	28.46	28.47
dynami c vi scosi ty	≤ 7 , cm/30sec	6.5	6.5	6.4	6.5	6.4	6.5	6.4	6.5
chr onat i c aber r at i o n	≥ 1.80	1.90	1.93	1.92	1.89	1.88	1.87	1.86	1.85
I uni nance	≥ 21.0	21.81	21.74	21.75	21.73	21.65	21.60	21.50	21.48
PH	4.0-4.4	4.19	4.20	4.21	4.19	4.20	4.19	4.22	4.21
moul d	$\leq 50\%$	34	34	32	34	34	32	34	34
The t ast e of qi	nor mal	Sigh tly bitte r	Sigh tly bitte r	Sigh tly bitte r	Sigh tly bitte r	It's tough	It's tough	It's tough	It's tough
col our and l us-	nor mal	It's a	It's a	It's a	It's a	It's dar ke	It's dar ke	It's dar ke	It's dar ke

tre		littl e dark	littl e dark	littl e dark	littl e dark	r	r	r	r
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The test results show that the product only begins to show signs of darkening and a bitter taste after 25 months of storage. The microbial indicators remain stable for up to 30 months, meeting the required standards. Additionally, the concentration, viscosity, and pH levels have not changed significantly. Therefore, it is concluded that a shelf life of 2 years for tomato sauce is entirely feasible.

Quality control Department, Tianjin Xinhua Food Co., LTD

March 1, 2022