RL FOOD TESTING LABORATORY.COM

Client:	**Example Client** **Sample Plaza** **Example, WA 98XXX**	**Invoice#:** **PO:** **Received Date:**	**22-XXXXX** **ABCD** **01/26/2022**

Product:	**Product A Lot XXXX**		**Serving Size:**	**N/A**
Shelf Life: Real-Time	**Target: 21 Days**	**Temperature: 4° C**	**Humidity: Ambient**	**Study Duration: 21 Days**

Shelf -Life Report Form: Summary of Test Results

Real Time (in Days)		**0**	**5**	**10**	**14**	**18**	**21**
Analysis	**Target Limit**	**01/26/2022**	**1/31/2022**	**2/5/2022**	**2/10/2022**	**2/13/2022**	**2/16/2022**
SPC (cfu/g)	<100,000	1,600	1,000	3,000	3,800	2,000	6,200
Yeast (cfu/g)	<100	10	20	10	60	90	1,050
Mold (cfu/g)	<100	60	00	<10	10	<10	60
Rancidity							
pH (pH Units)	<5.00	<0.1	<0.1	<0.1	<0.1	3.26	6.30
Physical							
Water Activity ($_a$w)	0.765-0.785	0.775 @ 23.3°C	0.770 @ 23.1°C	0.765 @ 22.3°C	0.772 @ 21.7°C	0.766 @ 21.5°C	0.406 @ 24.5°C
Organoleptic Analysis							
Color	Off white	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent
Odor	Neutral	Consistent	Consistent	Consistent	Consistent	Consistent	Slight Off Odor
Texture	Fine powder	Consistent	Consistent	Consistent	Consistent	Consistent	Consistent
Visual	Package intact	Consistent	Consistent	Consistent	Consistent	Consistent	Package slightly bulging

Shelf-Life Comments and Conclusions

Samples of regular production batches of product were received and logged into our Laboratory Information Management System (LIMS). Each pull date was given a unique sample number. The samples were stored in a refrigerator. The samples tested at day zero and at regular intervals for twenty-one days.

Microbial findings exceeded levels that would indicate bacterial spoilage on day 21 (2/16/2021), where yeast levels were above target limits. The pH levels were below target range on day 21 (2/16/2022). Water activity levels were within an acceptable range for this product until day 21 (2/16/2021). Organoleptic analysis indicated potential issues on day 21 (2/16/2021) where changes in color and a slight bulging in packaging were observed. The results of this study indicate likely spoilage by yeast fermentation on day 21 (2/16/2021).

Analysis of this product for shelf-life stability does not ensure safety with regards to pathogenic bacteria, such as Staph. aureus, E. coli, Listeria and Salmonella. Based upon the findings from this study, a shelf life of eighteen days at 4°C is recommended for this product.

Signature:	Kent Oostra	Signature:	02/23/2022