

BLT - Antioxidant Fortification for Beverages



New Platform for Antioxidants

The growing volume of science supporting the numerous health benefits of an antioxidant-rich diet has food technologists looking for new delivery platforms for antioxidant fortification. LycoRed, Ltd., comes with a solution in the form of two health drinks that deliver the desired antioxidant benefits in a convenient and tasty form. The health drinks, **Summer Delight** and **Tomato on the Go**, provide the platform for BLT, LycoRed's new multi-carotenoid blend.

Health Benefits of Antioxidants

BLT is a ready-to-use mixture of natural beta-carotene from Lyc-O-Beta™, natural lutein from Lyc-O-Lutein™ and natural tomato lycopene from Lyc-O-Mato™ Red. This antioxidant-rich blend of orange, yellow and red carotenoids complements the U.S. government¹ sponsored "5 A Day" campaign aimed at encouraging consumers to eat a variety of different color fruits and vegetables daily for the greatest health benefit. Research on carotenoids and antioxidants specifically has shown that phytonutrient synergy enhances overall antioxidant activity.² The carotenoids in BLT were chosen because of the weight of clinical research supporting their role in the diet in supporting prostate health³ maintaining a healthy heart⁴, supporting eye⁵ and skin health⁶ and helping to protect against DNA and cell damages⁷.

Nutrition on the Go

The juice drink platforms for delivering BLT are a response to customer requests for a convenient and good tasting vehicle for antioxidant fortification. **Summer Delight** is a refreshingly, fruity juice base, and **Tomato on the Go**, a tomato-based drink, whose unique savory flavor is contributed by LycoRedis CTC - an all natural clear tomato

concentrate. **Summer Delight** and **Tomato on the Go** are each intended to meet the needs of consumers who may not take the time to eat a balanced meal and would prefer a great tasting drink over tablets or capsules as a means to insure that their daily diet contains the antioxidants that support good health. A four ounce serving of either the fruity or savory drink contains 1mg beta-carotene, 1mg lutein and 2mg tomato lycopene. Both BLT fortified **Summer Delight** and **Tomato on the Go** lend themselves to additional fortification with other nutrients of a manufacturer's choosing. The LycoRed product list includes many such complementary ingredients and LycoRed pre-mix capabilities make the task of inclusion all the easier.

BLT - especially for nutritional beverages

BLT is highly soluble, all-natural and vegetarian, and was developed specifically for nutritional beverages. Lyc-O-Beta™ is a suspension of micronized natural beta-carotene crystals in glycerol. The beta-carotene is sourced from the fermentation of *Blakeslea trispora* and stabilized by sucrose esters and lecithin. The Lyc-O-Lutein™ contains 2 carotenoids from marigold - lutein and zeaxanthin. The carotenoid crystals are suspended in glycerol and also stabilized by sucrose esters and lecithin. Lyc-O-Mato® Red, a rehydrated form of Lyc-O-Mato® Powder, supplies the tomato lycopene plus the other phytonutrients found in tomato, including phytoene, phytofluene, tocopherols and phytosterols. BLT is stable at the elevated processing temperatures and low pH that is typical for beverages. All three BLT ingredients are kosher and halal certified and GMO-free. Marketers will particularly appreciate the fact that the all natural ingredients in **Summer Delight** and **Tomato on the Go** lend themselves to a consumer friendly "clean label".

Additional information is available at www.lycored.com or via e-mail from lycored@us.lycored.com.



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End Notes

- 1 U.S. Center for Disease Control and Prevention
- 2 B. Fuhrman, N. Volkova, M. Rosenblat, M. Aviram, Lycopene synergistically inhibits LDL oxidation in combination with vitamin E, glabridin, rosmarinic acid, carnosic acid, or garlic. *Antioxidant - Redox. Signaling (ARS)* 2: 491-506, 2000
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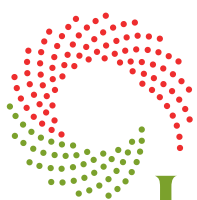
LycoRed Applications

BLT* Fortified *Summer Delight*

Refreshingly fruity, multicarotenoid antioxidant health drink platform

*** BLT Fortification**

- **B** beta-carotene (Lyc-O-Beta)
- **L** lutein (Lyc-O-Lutein)
- **T** tomato lycopene (Lyc-O-Mato® Red)



LYCORED

Creating innovative nutrition

BLT Fortified *Summer Delight*



BLT Benefits

- Fortifies beverages with ready-to-use synergistic carotenoids
- Broad spectrum antioxidant mixture
- Delivers antioxidant health benefits supported by clinical studies
- No additives / All natural
- Consumer friendly, clean label ingredient

Formula

	%
Water	83.77
Syrup 75° Bx	14.20
Lyc-O-Mato® Red	0.85
Citric Acid	0.78
Pectin (apple)	0.25
Lyc-O-Lutein 2% SG	0.06
Lyc-O-Beta 2% SG	0.06
Ascorbic Acid	0.03
Aroma (according to flavor)	

Preparation Steps

1. Prepare antioxidant solution. Prepare a 10% w/w solution of Lyc-O-Lutein 2% SG and Lyc-O-Beta 2% SG with water. Stirring constantly, heat to 40-50°C for 20 minutes.
2. Prepare acid solution. Prepare a 50% w/w solution of citric acid with tap water. Dissolve the ascorbic acid in the solution.
3. Prepare pectin solution. Gradually disperse the pectin into the syrup solution 75% w/w while stirring constantly.
4. Dissolve the Lyc-O-Mato® Red in the pectin solution.
5. Add the acid solution.
6. Add the remaining water.
7. Add the antioxidant solution.
8. Pasteurize in a microwave to 82-85°C.
9. Add flavors.
10. Hot fill.
11. Cool immediately.

Nutrition Facts

Serving Size: 4 fl. oz. (125ml)
Servings Per Container: 1

Amount Per Serving

Calories 50 Calories from Fat 0

% Daily Value*

Total Fat 0g 0%

Saturated Fat 0g 0%

Trans Fat 0g 0%

Cholesterol 0mg 0%

Sodium 0mg 0%

Potassium 0mg 0%

Total Carbohydrate 13g 4%

Dietary Fiber 0g 0%

Sugars 13g

Protein 0g 0%

Vitamin A 0% • Vitamin C 60%

Calcium 0% • Iron <1%

Lycopene 2mg**

Beta-carotene 1mg**

Lutein 1mg**

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.
** Daily value not established.

Ingredients

Water, syrup, lycopene, citric acid, pectin, lutein, beta-carotene, ascorbic acid, natural flavor



LYCORED

Creating innovative nutrition

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