



Food manufacturers need to accurately determine the “**use by**” or “**best before**” dates for their products in order to meet strict regulations and to keep their brand and consumers safe.

**Eureka Analytical Services (Eureka)** provides accurate and reliable **Shelf Life testing** to reduce the risk of **product recalls, and manage inventory in the warehouse and sales channels.**

## FOOD SHELF-LIFE TESTING

Shelf life testing is an important process used to accurately monitor food quality and reliability of ‘**best by**’ claims on the labels. These product claims must be backed by reliable data in order to meet the requirements of **FSSAI**.

**Eureka** can help the clients to back their shelf-life claims with the FSSAI data by its own protocol & summaries. Using state-of-the-art stability chambers our shelf life testing ensures that products are kept at a **specific temperatures and humidity levels** throughout the duration of the study.

## COMPONENTS OF SHELF-LIFE TESTING:

### 1. Organoleptic and Appearance

Organoleptic testing includes **color, texture, aroma, packaging, separation, stratification, and taste** which are of high importance to a consumer when selecting a product.

### 2. Microbiology Analysis

- Mesophilic and Thermophilic Sporeformers
- Clostridium Perfringens
- Aerobic Plate Count
- Yeast
- Mold
- Total Coliforms and E. coli
- Salmonella
- Lactic Acid Bacteria
- Alicyclobacillus
- Staphylococcus aureus



### 3. Rancidity (Degradation of fats & oils)

Rancidity testing determines the level of oxidation in a sample. When a lipid goes rancid, its value as a foodstuff is compromised and will take on a foul or stale flavor. Proper rancidity testing is essential in determining the shelf life of the product.

We can provide the following rancidity testings:

**Peroxide Value (PV) testing** determines the amount of oxidation in a lipid sample. Peroxides are the first indicator that lipid is oxidizing.

**p-Anisidine (p-AV) testing** determines the amount of aldehydes in a lipid sample. This test is often paired with PV, as aldehydes are the secondary indicator of lipid oxidation.

**Free Fatty Acids (FFA) testing** determines the amount of fatty acids that have been liberated from their triglyceride structure. This reaction causes a lipid to become slightly acidic.

### 4. Ingredient Activity (Degradation of botanicals, and other unstable compounds, as well as loss or gain of moisture)

Ensuring that the **bioactive ingredients** in your product are shelf stable throughout their life and meet label claims until the date of expiry is of utmost importance.

We can analyze a number of **bioactive ingredients** like **Vitamins, EPA, DHA, Chondroitin, Glucosamine, Phytosterols, Amino acids, Minerals, Sulfites, Caffeine** and others to determine if there is degradation over time.

Relevant products:

- Packaged and Frozen Foods
- Juices
- Dairy Products
- Nutritional supplements
- Confectionary

Eureka can offers six standard conditions for shelf life testing:

- Frozen (-15°C to -20°C )
- Refrigerated (2°C to 8°C)
- Ambient (25°C/60% RH)
- Intermediate (30°C/65% RH)
- Accelerated (40°C/75% RH)
- Tropical (30°C/75% RH)

Based upon requests, other conditions may also be accommodated.

As always, **Eureka** is here to support you not only with our **sampling, testing and inspection services**, but also with **expert advice on related topics**.

Please email us for all your upcoming requirements on testing as per above values.

