

Product Stability and Expiration Dates

The expiration date provided on the product label and Certificate of Analysis is based on our stability studies and experience with similar products. Except for the short-lived products that are given an expiration date containing the specific day of the month, product expiration dates are intended to be effective at the end of the given month. Each product should be suitable for use until the expiration date if stored under the following conditions:

- Original, unopened container with the seal intact.
- Temperature conditions specified on the Certificate of Analysis. Most products should be stored at controlled room temperature (59°-86°F, 15°-30°C). Some products require refrigerated storage (36°-46°F, 2°-8°C); this is specified on the product label as well as the Certificate of Analysis.
- Away from excessive humidity.

Manufacturing dates are assigned to those products that are known to have a very short shelf life or whose shelf life is extremely dependent on storage conditions.

Opened Containers: Once the container is opened, the shelf life depends on storage and handling. Because of the variation in laboratory conditions and practices, we cannot certify a shelf life for opened containers. The following precautions will maximize the shelf life of opened containers:

- Open the container in an area known to be free from fumes of acids, bases, Nitrogen Oxides, Sulfur Dioxide, organic solvents, or other potential contaminants.
- Do not pipet directly from the product container or return product to the bottle.
- Recap immediately and tightly after each use.
- Store the recapped bottle at the recommended storage temperature.
- Retest the solution periodically if extreme accuracy is required.

Stability Program: RICCA CHEMICAL COMPANY performs stability studies to establish expiration dates on our products to assist our customers in maintaining a high quality product for testing use. We have established a standard procedure (QAP14, Stability Study Procedure) for performing stability studies.

A few products were assigned expiration dates based on recommendations found in the same published sources that specify the product formulation and usage. These are reagents for which the exact concentration is not critical to the normal intended use. The remaining products, including the vast majority of RICCA CHEMICAL COMPANY solutions, have expiration dates that were substantiated by RICCA CHEMICAL COMPANY stability studies on product samples which were manufactured, packaged, tested, and stored in exactly the same manner as product sold to our customers. If any significant changes in manufacturing, packaging components, testing, or storage are proposed, this initiates new stability studies to evaluate usable shelf life.