

Taylor's Technical Bulletin: Reagent Shelf Life

AGE VS. ENVIRONMENT

All reagents have a shelf life, whether they are liquids, powders, crystals, tablets, or test-strip pads. If kept dry, powders and crystals are very stable; acids are also long-lived. Date of manufacture is not the controlling factor when it comes to shelf life—storage conditions are more important. **As with all perishables, reagents are sensitive to environmental influences and will last longer under controlled conditions.** To this end, we recommend:

- Storing reagents at a consistent temperature in the range of 36°F–85°F (2°C–29°C). Extreme temperature fluctuation, say from a refrigerator to a hot car trunk, causes reagents to deteriorate.
- Keeping them out of prolonged direct sunlight. (Note: Brown plastic bottles help protect the very light-sensitive reagents.)
- Segregating reagents from containers of treatment chemicals.
- Replacing caps immediately and tightening them carefully so exposure to air and humidity is limited.
- Avoiding switching bottle caps, placing bottle caps on soiled surfaces, repouring reagents into contaminated containers, or touching test-strip pads.

Taylor formulates its reagents to remain effective for at least one year, with only a few exceptions (molybdenum indicator in liquid form is one; after four months old it should be tested against a standard periodically). **As a general precaution, replace all reagents more than one year old, or at the beginning of a new testing season.**

RECOGNIZING A COMPROMISED REAGENT

Here are some changes in appearance that indicate these reagents should be discarded:

Reagent	Indication
Any liquid that has frozen	A liquid reagent still may be effective after freezing. Allow it to thaw at room temperature. If the bottle cracks, if you see a crusty buildup around the dropper tip, or if there are floating particles that do not dissolve when the bottle is shaken, replace the reagent.
R-0002 DPD Reagent #2	This solution should be colorless to be effective. As it reacts with oxidizers, the color will vary, ranging from colorless to pink then darkening to a final brown.
R-0003 DPD Reagent #3	This solution should be colorless. As it degrades, the color will become increasingly yellow.
R-0004 pH Indicator (Phenol Red)	As it degrades, the solution changes from its original red color to a yellow or purple.
R-0008 Total Alkalinity Indicator	This solution should be a dark green color. When it begins to stain the milky-colored plastic bottle, differences in initial test and endpoint colors also will be observed.
R-0011L Calcium Hardness Indicator	This solution should be a deep blue color. If any other color, replace.
R-0718 Silver Nitrate Reagent	This solution should be colorless. There are no easily observable indications. We recommend you discard and replace on an annual basis. <i>Note: R-0718 will stain skin.</i>
R-0870 DPD Powder	As it degrades, the color will turn from an off-white color to gray or purplish gray and will gradually become a purplish brown color.
R-0871/R-0872 FAS-DPD Titrating Reagent (for chlorine /bromine)	This solution should be colorless. As it degrades, the color will become increasingly yellow.



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100 ppm (16 oz.)

R-7065-E CYA Standard

50 ppm (16 oz.)

K-7066-E

All four 16 oz. solutions above

FOR MORE HELP

If you have questions concerning reagent shelf life or storage, call the Taylor technical hotline, **800-TEST KIT** (837-8548), Monday through Friday between 8:00 AM and 5:00 PM Eastern Time.



Unsure you are getting accurate readings? "Test your test kit" using Taylor's standard solutions.