Kodak reports to laboratories on:
a “better” buffer... reviewing flames, fractures, and explosions
... making candy dandy longer

Footnote on pH 9.9
No buffer buffers any better than any other buffer. The shape of the curve of pH vs. added acid or alkali is the same for all of them, differing only in position. You find the one with the pK value closest to the pH you wish to maintain; and as long as there are enough buffer molecules in your medium to take up excess protons, or conversely, enough buffer ions to contribute protons to the medium, pH stability prevails.

We note a footnote on page 20 of The Journal of Biological Chemistry, 207 (March '54) which states that our 2-Amino-2-methyl-1-propanol (Eastman P 4780) has been found superior to glycine as a buffer for alkaline phosphatase. With a pK of 9.9, it is reported not to inhibit alkaline phosphatase even in 1 M concentration. The authors relate their finding of about twice the enzyme activity with this buffer as with glycine, then go on to say, “and also a far better buffered medium is possible.”

We admit to the extent of rewording the thought to “a buffered medium that is far better is possible.” We appreciate the compliment in any event, even though 2-Amino-2-methyl-1-propanol, a Practical Grade Eastman Organic Chemical, costs only $2.15 for 500 grams while we get $1.25 for 100 grams of Glycine (Ammonia-Free) (Eastman 445).

What we get for the rest of the some 3500 organic chemicals we stock is found in our List No. 39. To start a copy your way, write Distillation Products Industries, Eastman Organic Chemicals Department, Rochester 3, N. Y. (Division of Eastman Kodak Company).

Slicing time
If you would like to live over and over again a certain ⅝ second sliced into 2,000 1.2-μsec slices, we have just the ticket for you.

The Kodak High Speed Camera, we admit with no shame at all, is not highbrow instrumentation.* It is a 16mm movie camera designed for and widely used by practical men with practical manufacturing problems to solve and impatient production chiefs to keep happy. Its controls are relatively few and unimpressive. Aside from a few photoflood lamps and maybe a stand, there is little auxiliary equipment for the assistant photographic engineer to tote.

With such an unsophisticated approach, you get an exposure time for each frame that is always ½ the repetition rate. Since the camera speed range is 1000 to 3200 frames per second, this means that the time available for smearing out the image is 63 to 200 μsec. The distance moved by a machine part in this time, divided by the image-to-object size ratio, is rarely large enough for blurring.

Flames, fractures, and explosions are another matter. Here we do use extra equipment to illuminate the subject by repetitive flashes from a discharge lamp with enough output even for schlieren photography with the camera. A reluctance pickup gives a synchronizing pulse at the instant when each frame is in position. And that’s how we get 1.2-μsec shavings from big, fat 63 to 200-μsec slices.

The distinguished high speed photographic pioneers, Edgerton, Germeshausen & Grier, Inc., 160 Brookline Avenue, Boston 15, Mass., make this stroboscopic auxiliary equipment for the Kodak High Speed Camera. It is to them we suggest inquiries on this matter be directed. For a booklet on the camera itself, write Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

Nuts
We are wooing the nut business (direct and in candy) with talk of wrapping materials, roasting oils, and treated salt all containing small quantities of antioxidants of the form

```
CH3
\( \text{CHO} \)
```

This is butylated hydroxyanisole.

That position 3 for the butyl group is more active than position 2. The three alternative arrangements of the butyl group are much less effective than the tertiary arrangement. But if one replaces the CH₃O with a CH₃ and puts a second tertiary butyl group at the adjacent position on the ring on the other side of the hydroxyl, one has butylated hydroxytoluene, another excellent food antioxidant.

In some cases a combination of both BHA and BHT provides the greatest protection against rancidity. The reasons behind these observations might make challenging exercises in several disciplines.

“Nuts,” say the nut men and the candy men (who care little about steric hindrance), “that can keep that crunchy, fresh-from-the-roaster goodness in chocolate bars after 120 days in the warehouse, the trucks, and the coin machines are a better proposition than nuts that go bad in 45 days.”

So they write to Eastman Chemical Products, Inc., Kingsport, Tenn., and ask for a list of packaging and food fat houses that supply Tenox-treated goods. Or, if they want to get into it a little deeper, they ask which Tenox antioxidant best fits their cooking temperatures, ingredients, storage, etc. “Tenox”—that’s our trade-mark for various formulations of BHA, BHT, the synergistic antioxidant propyl gallate, and catinosequestering citric acid—wholesome substances all.

*Nevertheless, we venerate highbrows, particularly for what they do with our film.
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