

# Old Bottles Exploding in Popularity

By Steve Ketcham

I had seen the jar before. Just weeks ago at a local auction house it was in a lot of old bottles and jars. I did not stay for the auction, nor did I leave a bid. There was nothing too exciting as far as I could see.

A couple of weeks later, I found a few bottles and jars from that very auction lot on sale at a local antique shop. Now able to pick and choose, I selected four items and had them wrapped. I paid for my purchases, placed them in my car, and drove home.

One of the four pieces I bought was an amber, labeled jar of absorbent gauze with a threaded metal lid. A quick look at the base told me the jar was not machine made, and the lip was likely ground. Because the original paper seal still covered the lid, I did not open the jar. Good thing.

I took pictures of the jar and planned to offer it on e-Bay. As I began to write the description, I realized that I had misread the label. I thought it read "boric acid." A black crayon had been used to write a date or a price on the bottle, and the writing covered part of the label text. When I looked closer, I realized the label indicated that the gauze inside was treated with "picric acid."

Recalling the many e-Bay and US Postal Service rules on shipping hazardous items, I decided I had better read up on picric acid. Plus, I could use the information I found to write the e-Bay listing.

A web site belonging to the University of Texas, San Marcos, offered a full page devoted to picric acid. The first paragraph began, "Picric acid, or Trinitrophenol, is, by far, one of the more dangerous chemicals being used today." They had my attention.

Long story short, picric acid is a first cousin to TNT. Notice the word "nitro" embedded in the larger, scientific name trinitrophenol. To insure stability, it is supposed to be kept moist. I doubted the contents of my jar had seen moisture in decades. Furthermore, the salts that form when the acid is dry can react violently when disturbed. The site described a scenario where an explosion could occur when a metal lid is unscrewed and particles of the dried acid, now a salt, are scraped between the metal lid and the glass jar. The article elaborated on this particular point. It stated that to open a bottle having residue salts in the lid could cause enough friction to ignite an explosion large enough to blow up a small laboratory.

Under the Intervention portion of the picric acid treatise, the following advice was offered:

"If old or previously unaccounted for bottles of picric acid are discovered, the following steps should be taken.

First and foremost: DO NOT TOUCH THE BOTTLE!"



This is the label that attracted the writer to this jar of picric acid. At first, he thought it read, "boric acid."

(Their caps, not mine.)

Finally, the treatise stated that the best method of disposal was to leave it to the local bomb squad.

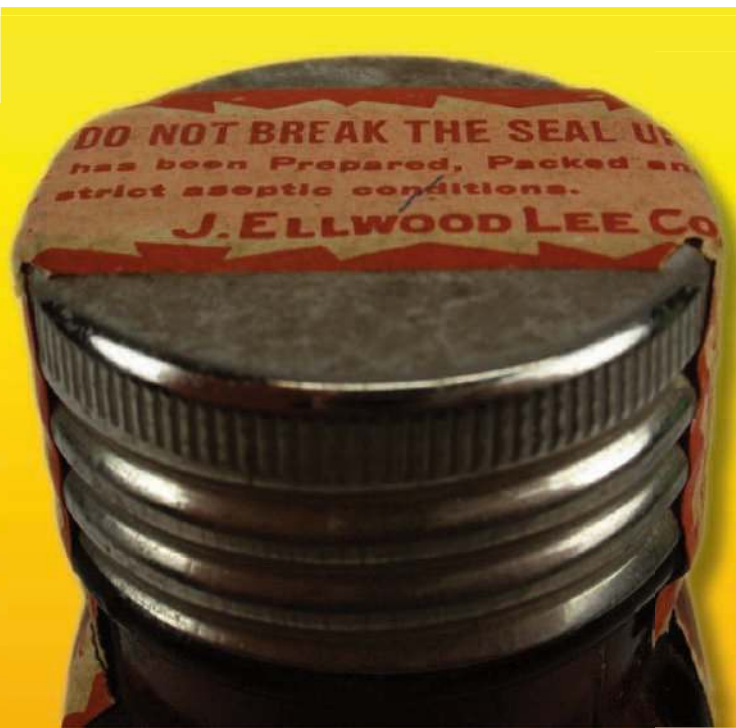
It was at this point that I carefully carried the jar out of the house and called the fire department. They declined my offer to make the volatile vessel their problem, suggesting I get in touch with the county hazardous waste folks. I discovered that the county's hazardous waste web site lists picric acid, along with TNT, as an item it will not accept.

The next call was to my neighbor, a member of the city's police auxiliary. He told me that our city worked with other suburbs when it came to all things explosive. A call to the police department provided the phone number of the nearest suburb with a bomb squad. When I called them, they told me not to touch the stuff and that they were on their way.

I invited the officers in to view my collection as a means of explaining just how a fellow with very little chemistry background ended up with this very volatile vessel. They enjoyed the visit but did not linger. After all, a 100-year-old jar of picric acid was sitting in a frag bag on my driveway. Their final words to me: "You won't be seeing this bottle again." I was OK with that.

Moments later the bottle of picric acid was on its way to be detonated.

Now, when friends ask how the bottle business is going, I can honestly say, "Business is booming!"



**The paper seal over the lid on the picric acid jar. The words, "DO NOT BREAK THE SEAL" turned out to be very good advice.**



**The embossed side of the picric acid jar.**