

Defective Squirt Bottle Incident

Last Friday November 13, 2009 the squirt bottle (pictured below) was partially filled with Ensolv and used in cleaning components during a metal seal valve rebuild. Prior to filling the bottle, it was visually inspected and no defects were noticed. Once the operation was completed, the bottle was placed on top of a piece of equipment on the lab bench. Approximately 2 hours later, the bottle was found as shown below and the contents had leaked out of the container onto the equipment.



Within CNST we have several squirt bottles with Ensolv contained in them and have never seen this type of failure. Some of them have contained Ensolv for a year or more. Following the present incident, all of these bottles were examined and tested and none were found to have any defects. Further investigation of the bottle involved in the incident suggests that it was most likely defective. Squeezing of the defective bottle probably cracked the material and this led to the solvent leaking out of the lower stress cracks.

Lessons Learned:

1. Prior to filling squirt bottles with solvents or any chemical, you should not only visually inspect these bottles but also squeeze test them to verify they are in good working condition.
2. When solvent squirt bottles are not in use, they should be stored in a secondary containment bin so if they do leak, the spill is contained.

OLD STYLE SQUIRT BOTTLE NOTICE

Another safety issue that came up during this investigation was that several labs are still using the old style, non-venting squirt bottles. These bottles can build up internal pressure and can squirt out the

contents at any time. The use of the non-venting squirt bottles should be discontinued at once and replaced with the vented type. The vented types of squirt bottles are available in the NIST storeroom.

