

In a new series Dr Christina Baxter, of Emergencyresponsetips.com, offers helpful advice for first responders. This issue is ChemTape.

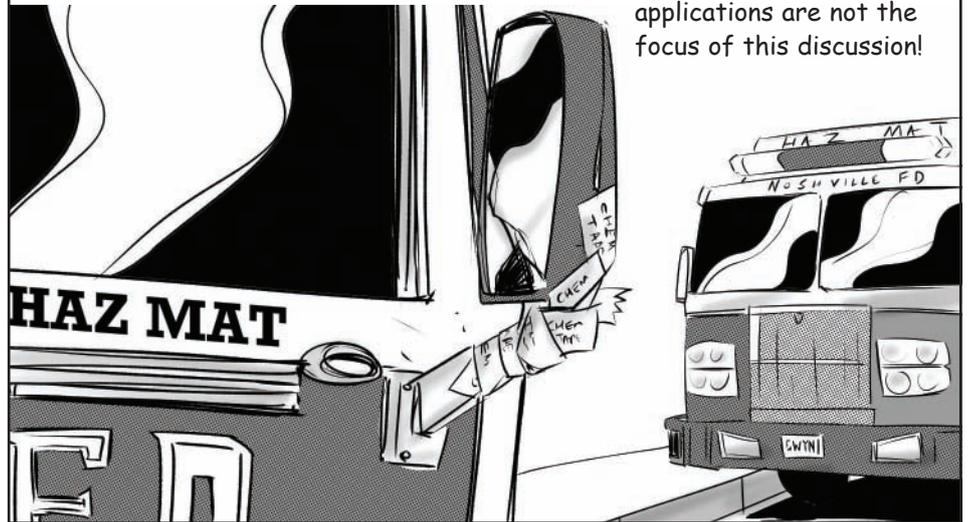
Keeping you safe!

The column is intended to provide operational guidance to the hazmat/ CBRNE community on the selection and performance of equipment and tactics. In this issue we are focussing on the use and application of ChemTape.



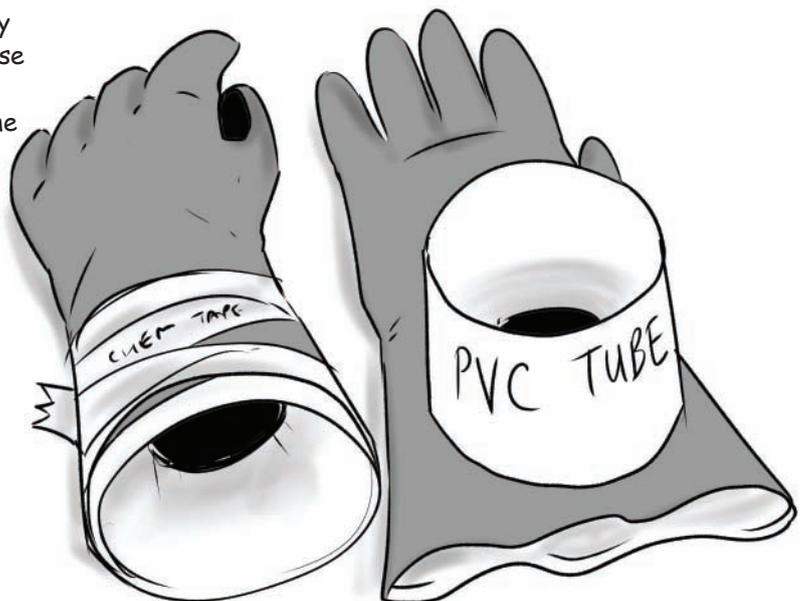
If you are not familiar with ChemTape and you work in the hazmat/ CBRNE community, you should be! ChemTape, a Kappler product, is a multi-layered chemical resistant film laminated to a woven cloth base and a polyisoprene-based, pressure-sensitive adhesive. This configuration means that ChemTape provides a level of chemical resistance that is not found with duct tape and other packaging tapes. As with duct tape, emergency responders have found many other uses for ChemTape, but those

applications are not the focus of this discussion!



From my perspective, every team should have ChemTape available, especially for emergency patches. Taping should not be used to increase protection, however, as there is no way to guarantee that utilisation is reproducible. The evolution of products over the past decade have negated the need for taping by developing better interfaces and seams.

There are three specific cases where I still see the use of tape as beneficial when creating interfaces in the field, these are glove-to-garment, boot-to-garment, and coverage of protective flaps. In the case of glove-to-garment interfaces, there are many ways to approach this. One example is to use a solid material, like PVC pipe, with a diameter larger than the wrist. Tape is then used to create interfaces to the solid material.



Another approach used by a Lancaster County, Pennsylvania, hazmat team is to create an artificial interface using ChemTape in a two-halves approach. Both these approaches enable the operator to doff their garment and gloves in one piece, thereby eliminating a major source of cross contamination.

Taping is also often used at the suit-to-boot interface when there are no integrated chemical protective socks on the garment. This ensures that the suit is on the outside of the boot, minimising the chance of liquid pooling into the boot during operations. It is also very common to see the protective flaps over zippers being taped. While not required, this may give the user an added sense of safety.



Not the mask!

One application of taping is considered dangerous by many response personnel. This is the old approach of taping a mask to the garment. Current best practice recommends that you never attach anything to your respirator. It is your last line of defence and everything should be done to minimise the chances of dislodging it. Once a mask is taped to the garment, any pull on the suit can inadvertently pull on the respirator due to the strength of the adhesive bond. The use of ChemTape on a respirator can be perceived as non-compliant with its certification (NIOSH in the US, for example). Most manufacturers have switched to using elastomeric interfaces for non-encapsulating suit designs to negate the perceived need for taping.



Remember, use ChemTape wisely... it is another tool in your toolbox. The adhesive system is very strong and can tear lightweight fabrics when it is removed. The adhesive itself, like all adhesives, is flammable and chemically reactive, therefore, be sure to apply the tape properly, avoiding wrinkles and gaps to help minimise any chemical or high heat exposure. And remember, if you are using tape to increase the protection of the garment, you might want to consider a different garment design!



Until next time,



CBax away!

*Images are courtesy of Phil Buckenham
<https://philbuckenhamart.wixsite.com/philbuckenham>*