

CHEMICAL SPILLS

On October 28 1986, after spilling a solvent mixture containing phenol on himself, a senior La Trobe researcher suffered minor burns in the area of his watchband. We have an American report of a person who, after being exposed to ethylene bromide, followed the correct procedure of immediately stripping off their clothing and showering. When they donned fresh clothes they put a contaminated belt back on. Burning appeared several hours later.

"WHEN YOU HAVE A CHEMICAL SPILT ON YOU - IT'S OKAY JUST TO WASH IT OFF, ISN'T IT?"

In general, this is good advice. Copious quantities of water should be used to wash chemicals off the skin. However, don't let a chemical be trapped against the skin by clothing, watchbands, or small bandages. Many chemicals have a similar effect to those described above, for example: ethylene dibromide, methyl chloride, methyl bromide, methylene chloride, ethylene oxide, and 1,3-dichloropropane. Some give no warning sensation.

IS PHENOL A SPECIAL CASE ?

Phenol can effect the body if it is inhaled, comes in contact with the eyes or skin, or swallowed. It can be absorbed through the skin. Phenol is corrosive to animal tissues and can cause severe damage to eyes. On contact with the skin it does not cause immediate pain, but leads to a whitening of the area with a burning sensation later.

If the chemical is not removed promptly it may cause a severe burn, or possibly systemic poisoning. The symptoms of substantial skin contact develop quickly, often after 15 to 20 minutes. These may include headache, dizziness, dimming vision, ringing in the ears, irregular breathing, and other signs of disorder.

An ingestion of 1.5g is known to have been fatal. Use water to wash phenol off the skin. Speed is essential. Don't be tempted to use ethanol, even though it is a better phenol solvent. Its effect is to spread the phenol and increase tremendously the skin area exposed. "There have been several deaths reported from the injudicious use of alcohol in such a manner"

Further information, including hazard data sheets on many chemicals, is available from the Occupational Health and Safety Section.

REFERENCES

1. Steere, Norman V., CRC Handbook of Laboratory Safety, The Chemical Rubber Company, Illinois. 2nd Edition 1971.
2. The Safety Practitioner, November 1984, page 6; Hazard Data Bank.