

Industrial chemicals – something for terrorist attacks? (Abstract for a presentation given to physicans)

Bernd Herber

Chemicals are handled everywhere – not just at work, but in the home as well. The chemical industry is no doubt the biggest user of chemicals, but other industries handle highly hazardous substances as well.

For example, just-in-time delivery and a growing online trade in chemicals have increased transported volumes, inevitably leading to transportation accidents with more or less dramatic consequences. Serious workplace accidents involving chemicals are rare, but still occur from time to time (e.g. BASF 2016). In addition, chemicals may be released intentionally for purposes ranging from vandalism (acid-etch graffiti with hydrofluoric acid, etc.) to terrorism.

Emergency medical services (EMS) and the German Medical Corps receive relatively few calls involving chemical injuries and so have less practice treating these patients. As a result, these calls tend to pose significant challenges for EMS personnel. The story is much the same for emergency rooms or outpatient treatment centers that accept patients with chemical injuries, particularly when they arrive in large numbers.

This seminar covers experiences and practical knowledge gained from handling typical on-the-job accidents with chemicals at an industrial park with approx. 22,000 workers.

Accident case studies will provide an opportunity to examine the characteristics of injuries caused by exposure to special substances (specifically hydrofluoric acid, dimethyl sulfate and white phosphorus) that constitute basic chemicals in the chemical industry but that could also be employed by criminals or terrorists for nefarious purposes. The use of decontaminants for specific substances will be presented and demonstrated as well.