CHEMICAL MIXTURE METHODOLOGY (CMM) IN EMERGENCY RESPONSE

QUESTION: Can the SCAPA-approved Chemical Mixture Methodology (CMM) be used in emergency response as well as for emergency planning?

ANSWER: If the CMM is used in emergency planning, it should be available for use in response as well. If the actual event involves both a chemical mixture source and a type of scenario (such as a gas release, liquid spill or spray) that were analyzed as part of the planning basis, it may be possible to estimate the impacts of the actual event by scaling the results of the EPHA analysis to adjust for differences in dispersion conditions, release rate, release location or other factors. It may be possible to do this fairly quickly so that the results could be available for response decision making during the earliest phases of the response.

However, if the actual event involves a mixture or release type that has not been previously analyzed, the mixture must first be characterized and the concentration of each component at location(s) of interest must be measured or calculated. The concentrations at each location are then entered into the CMM Excel file to determine if a Protective Action Criterion (PAC) is exceeded and those results can be used directly to make or refine response decisions. Although the CMM Excel file generates results almost instantaneously, the more time-consuming task of characterizing the mixture and determining the concentration of each chemical at locations of interest means that the CMM will generally be used only in the later phases of response, after the requirements for rapid initial event classification and protective action decisions have been met.