Ralph Wheeler

E. P. Wheeler - St. Louis

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K. A. Wells
D. R. Hansen

Aroclor 1254
Kimberly Clark

Mr. Lee Judy
Chicago

It is difficult to give specific numbers in answer to Kimberly Clark's questions about elevated temperatures and sufficient ventilation.

Somewhat arbitrarily we have said in the past that if Aroclor 1254 is heated above 150 F then mechanical exhaust ventilation shoulddbe provided to remove vapors. This may or may not be conservative depending on the concentration of Aroclor in a formulation, the surface area exposed, the duration of the elevated temperature and the amount of general room ventilation provided.

"Sufficient ventilation" is that amount needed to reduce vapor concentrations of Aroclor 1254 to the Threshold Limit value (TLV) of ~0.5 milligrams per cubic meter of air. The TOV is that amount which workers can inhale 8 hours a day, 5 days a week for a working lifetime without danger of injury.

This obviously will lead to the question of Kimberly Clark of how the concentration in a workman is determined. Aroclor vapors cannot be measured with simple instruments that can be used for such common work place contaminants such as carbon monoxide, hydrogen sulfate, many chlorinated hydrocarbon solvents, etc. The measurement of Aroclor vapors requires sampling equipment and techniques that involve wet chemistry analysis in a suitable laboratory.

"Sufficient ventilation" can also be defined as the amount of air moving over the source of a contaminant (in this case Aroclor) and into appropriately defined ventilating systems to carry the vapors outside the working area. Depending on the type and nature of the source the design of the ventilating system can be simple or complex. In either case a common household situation serves to illustrate the point. For example, one would not try to capture and remove the odor of frying fish or cooking cabbage in the area of the kitchen range by placing a window fan in an upstairs window or attic. Common sense says to put a hood over the range where it is more economical to move smaller quantities of air and yet capture the offending materials. Secondly, it obviously is preferable not to draw the odors through the rest of the house.

This seems so obvious that no one would expect to find designs of ventilating systems in industry that would draw Arcelor vapors across a work room exposing unnecessarily a large number of people and secondly moving many more cubic feet of air to control the exposure than if the ventilation was applied directly over the source. Unfortunately plant engineers are repeatedly misapplying exhaust ventilation as illustrated in the example above.

If Kimberly Clark doesn't have qualified, trained [illegible] to do air sampling and analysis and experienced ventilation design engineers, there are many consultants available that could help them.

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