

Peter Gallagher (Baerlocher USA) presented information about the current use of lead (30,000,000 lb) and non-lead (1,900,000 lb) stabilizers. The reason industry uses lead as a heat stabilizer is that it is cost effective, efficient, imparts excellent weather characteristics and electrical properties. However, there are growing concerns about its chronic and acute toxicity that are pushing ahead the research on alternative stabilizers. There are different forms of lead that have been used, which exhibit different toxicity. Mixed metal stabilizers have been developed as alternative (e.g., Ca-Zn). Europe is currently leading in this direction, using 69% of these stabilizers; North America is second using 23%. Some of the key challenges facing the use of such alternatives involve:

- Cost (the greatest challenge; alternatives are about twice as expensive);
- Reduced performance in heat stability
- Significant changes in formulation required to achieve similar wet electrical properties

In the case of mixed metals we have a ‘cocktail’ of materials versus a single material, therefore the complexity of processing increases. Although the cost difference is still large it is quickly going down. For example, in the early 90s alternative heat stabilizers used to cost \$4/lb. Today their cost is \$1/lb. When we talk about cost, we include both the cost of raw materials and the cost of processing. Wet applications (UL 83) remain one of the biggest concerns. The test takes 6 months and therefore coming up with an alternative is likely to take more time. Manufacturers are likely to implement alternatives in the less demanding jacketing applications first, followed by insulation applications.