

## **80e The Battle of Safety Vs Non-Conductive Solvents and Non-Conductive Equipment**

*Robert J. Prytko*

In the kilolab, the importance of considering electrostatic discharge when scaling up chemistry is often overlooked. The reasons for this appear to be related to:

1. Lack of data in determining how to assess potential problems.
2. Electrostatic theory and practical applications are not taught in most universities.
3. Previous lab operations are looked upon as a guarantee of future success.

In any case, the failure to account for electrostatic discharges can have devastating results and thus warrants detailed planning to minimize or eliminate in the kilolab. A case study will be presented showing how basic grounding failed to prevent charge accumulation and the subsequent discharge during a filtration operation. This event led to a root cause analysis and ultimately, to the implementation of new equipment, PPE and procedures. Specific topics will include:

1. Charge generation from “normal” operations.
2. Kilolab equipment set-up and design.
3. Materials of construction for kilolab equipment and transfer lines.
4. Solvent properties: There's more than just flashpoint to consider!