Understanding Battery Shipment & Quality Issues

By Don Melnikoff, Alpha Source Biomedical Engineer

Batteries are a potential hazard that requires higher scrutiny due to the potential harm they can cause (most specifically Lithium batteries of all types). In fact, we have all seen the headlines of battery explosions or fires. But now there are new regulations, some in effect and others coming very soon that will limit what and how you ship, carry on, and package batteries (again most specifically Lithium batteries of all types). These regulations will no doubt provide a means of reducing the potential risk batteries may cause in the shipment and storage processes, but these regulations are only half of the story and focuses more on reactive measures.

Proactively, most batteries need to be designed properly to handle the environment, as well as the abuse they may experience such as short circuits, overcharging, drops, and high temperatures without catching fire or causing harm or damage. Most equipment that batteries power, has safety features to prevent catastrophic failure. However, batteries shipped or stored outside their intended equipment need to be handled appropriately to decrease risks.

What should your battery supplier be doing to help ensure your batteries are safe while shipping and in storage? Below are 5 things to consider.

1. The packaging should be of appropriate construction and properly labeled (New regulations require Lithium batteries of specific size and types to be considered Hazmat by the DOT and packaged, labeled and shipped appropriately.)
2. The inside packaging method is one to ensure the highest level of protection for the batteries from physically damage and/or possibility of short circuits or dangers evolution of heat.
3. Ensure your supplier has done the appropriate testing on lithium batteries and documentation should be available to users if requested (example - UN T1-T8 test for Lithium content batteries)
4. If they are shipping batteries that are considered hazardous by the DOT (lithium and Lithium Ion, etc.) then do they subscribe to a 24-hour hazardous materials communication service, such as Chemtrec? This is an optional service to manufacturers and distributors to help clearly identify to carriers and customers what is in the box and who to call if a potentially hazardous situation may arise. For more information refer to US DOT Regulation 49 CFR §172.604.
5. Are they ISO certified and regularly audited? The higher the quality system they have the better the consistency and diligence they will have in ensuring all possible battery hazard risks are reduced.

If a supplier is not proactive in testing and complying to the new and upcoming DOT regulations, they may not be able to ship certain types and sizes, and tighter restrictions are in place for October 2009.

So partnering with a reputable and quality minded supplier is a smart choice as it will reduce your battery risks and ensure supply of your needed battery solutions. For additional information, please visit http://www.phmsa.dot.gov/hazmat/regs.