

## **Domestic Updates to Lithium Battery Regulations Now in Effect; International Regulations Take Effect January 1, 2009**

Shippers should be aware of changes in government regulations regarding the preparation and packing of lithium batteries. While modifications to the U.S. Department of Transportation (DOT) *Hazardous Materials Regulations* became effective on October 1, 2008, changes to the International Air Transport Association (IATA) *Dangerous Goods Regulations* go into effect on January 1, 2009.

### **DOT Hazardous Materials Regulations**

Effective October 1, 2008, medium lithium batteries became fully regulated for air shipment under the DOT *Hazardous Materials Regulations*. Lithium batteries are considered a hazardous material because they can overheat and ignite in certain conditions and, once ignited, can be especially difficult to extinguish.

The new regulation requires that packages containing medium lithium batteries be properly packaged, marked, and labeled as hazardous materials and accompanied by shipping papers. Otherwise the shipment may be delayed or subject to significant fines. The DOT has legal authority to issue fines and penalties as high as \$50,000 per violation for non-compliance.

Common examples of medium lithium batteries include:

- Power supplies for high-intensity, long-life portable lighting, such as diving lamps;
- Some extended-life batteries for laptops;
- Larger batteries for high-level video cameras (used by film and news crews); and
- Long-life communications power supplies.

These changes apply to shipments of loose medium lithium batteries as well as medium batteries contained inside of equipment, or packed with equipment.

As of October 1, 2008:

- With respect to **air shipments** of medium lithium batteries, the shipment must display the "Cargo Aircraft Only" label if the package exceeds 5 kg (11 pounds). UPS accepts hazardous materials only from shippers with a contract or agreement for such service.
- With respect to **ground shipments** of medium lithium batteries, the shipment:
  - (1) Must be marked: "LITHIUM BATTERIES - FORBIDDEN FOR TRANSPORT ABOARD AIRCRAFT AND VESSEL." Text size for the marking depends on the size of the package (*e.g.*, gross weight of 30 kg (66 LB) or less, letters at least 6 mm (0.25 inch) high; gross weight over 30 kg (66 LB), letters at least 12 mm (0.5 inch) high); and

- (2) If there are more than 12 batteries in a package, DOT requires an additional damage warning both on the package and in an accompanying document that would be affixed to the package in a resealable envelope. The DOT-required warning and document both advise handlers that the package contains lithium batteries and that certain safety measures are required if it is damaged.

For full information about these changes, shippers should review the applicable DOT Final Rule, available at: <http://edocket.access.gpo.gov/2007/pdf/E7-15213.pdf>

Shippers may also contact the DOT Pipeline and Hazardous Materials Safety Administration's Hazmat Info-Line at 1-800-467-4922.

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### **Changes to IATA Dangerous Goods Regulations**

New international standards for air shipment of lithium batteries take effect on January 1, 2009, with the implementation of the next edition of the International Air Transport Association (IATA) *Dangerous Goods Regulations (DGR)*. These changes will significantly change the way many common lithium metal and lithium ion batteries are shipped internationally by air. Also, since UPS Air Dangerous Goods shippers may elect to follow the IATA *DGR* for domestic U.S. shipments, these changes could affect U.S. domestic shipments of these batteries.

### **Classifying Lithium Batteries**

- **Lithium Metal Batteries:** International standards in general classify non-rechargeable lithium (primary) batteries, also referred to as lithium metal batteries, on the basis of lithium content. The regulations have been amended for batteries with higher lithium metal content, and new conditions are specified under which smaller batteries may be shipped without full application of the regulations.
- **Lithium-ion Batteries:** For rechargeable lithium ion (secondary) batteries, old IATA regulations were keyed to the “equivalent lithium content” of the batteries. Reference to lithium equivalent content for lithium ion batteries has been revised under the 2009 regulations to reflect a maximum watt/hour rating of 100 W/hr. This change reflects the amendments to Special Provision A45. In addition, unlike under the older measures, watt/hour information will be required to be marked on many batteries.

### **New Packing Instructions**

Batteries that could be shipped as unregulated under the 2008 IATA *Dangerous Goods Regulations* will be subject to new conditions in 2009; these conditions affect packaging, allowable quantities, instructions for emergencies on an accompanying document or air

waybill, and package labeling. If lithium metal or lithium ion batteries are packed with or contained in equipment, additional conditions apply. Shippers accustomed to using exceptions in IATA's Special Provision A45 will find that the special provision no longer contains such information, and that information can be found in the applicable revised packing instruction instead.

Other than assigned "UN numbers" and changes to permitted quantities, there are, in general, no changes for fully regulated lithium metal and lithium ion batteries assigned to Class 9. Each type of battery will have its own UN number: UN3090 for Lithium Metal Batteries and UN 3480 for Lithium-ion Batteries. Other UN numbers also apply for both types of battery when packed with or in equipment.

Full information on shipping lithium metal and lithium ion batteries now appears in new Packing Instructions in the IATA *DGR*. These Packing Instructions provide full information on new restrictions applicable to small cells and batteries, as well as information for fully regulated shipments. (See 965, 966, and 967 for lithium ion batteries and 968, 969 and 970 for lithium metal batteries.)

### **Additional Detailed Information**

Detailed information about the changes to the IATA *Dangerous Goods Regulations* are available from the IATA web site at:

[http://www.iata.org/whatwedo/cargo/dangerous\\_goods/index.htm](http://www.iata.org/whatwedo/cargo/dangerous_goods/index.htm)