

## Shipping Damaged, Defective, or Recalled (DDR) Lithium Batteries DOT Special Permit 21193

### **“High Energy” Lithium Ion and Lithium Metal Batteries**

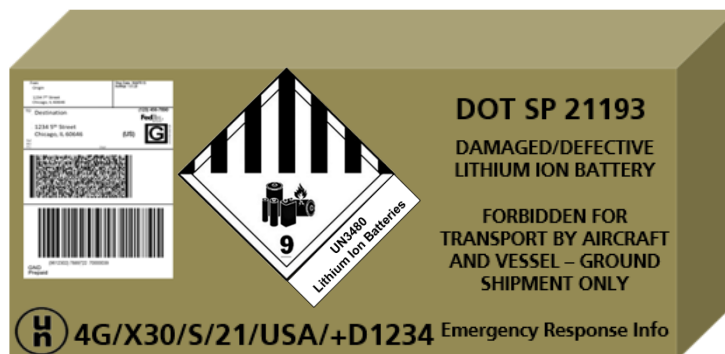
This guide is applicable only to lithium cells and batteries above the energy content threshold listed below:

- Lithium ion cells > 60 Wh
- Lithium ion batteries > 300 Wh
- Lithium metal cells > 5.0 g lithium content
- Lithium metal batteries > 25.0 g lithium content

If your lithium battery(ies) is below these limits, please view the applicable guide for “low energy” batteries

For high energy DDR lithium battery shipments per DOT SP 21193, the following applies:

- If person packaging batteries is not a hazmat employee, no training is required. If they are a hazmat employee, training is required.
- Cells/batteries must have originally met UN 38.3 test requirements (i.e., no prototype batteries allowed)
- Cells/batteries must be secured and protected against short circuit
- If cells/batteries are contained in equipment, unintentional activation must be prevented
- Cells/batteries must be placed in KULR TRS bag
- The KULR TRS bag must then be placed in the UN 4G fiberboard box provided
- Aggregate energy content in a single package cannot exceed 2.1 kWh or equivalent lithium content
- Total package weight cannot exceed rated gross weight of the outer package
- Package must be closed per provided closure instructions
- Ensure that the outer fiberboard package has the following marks/labels:
  - o “DOT SP 21193”
  - o “Damaged/Defective lithium ion battery” or “Damaged/defective lithium metal battery” as applicable
  - o “FORBIDDEN FOR TRANSPORT BY AIRCRAFT AND VESSEL – GROUND SHIPMENT ONLY”
  - o Package must display the Class 9 lithium battery label and UN No. and Proper Shipping Name
    - If standalone lithium ion cells/batteries: Use **UN3480, LITHIUM ION BATTERIES**
    - If standalone lithium metal cells/batteries: Use **UN3090, LITHIUM METAL BATTERIES**
    - If lithium ion cells/batteries packed with or contained in equipment: Use **UN3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT** or **UN3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT**
    - If lithium metal cells/batteries packed with or contained in equipment: Use **UN3091, LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT** or **UN3091, LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT**
- Regulated shipping paper required.



*Lithium ion batteries (UN3480) example*