

HAZMAT Tips on Mailing "Questionable" Articles

The USPS defines hazardous material as any article or substance designated by the U.S. Department of Transportation (DOT), as being capable of posing an unreasonable risk to health, safety, and property during transportation. In international commerce hazardous materials are known as "dangerous goods." This definition is very broad and includes many common, everyday use items which could include, but are not limited to:

- Batteries (lithium, wet cell)
- Fuels (gasoline, butane, propane, etc.) and items containing fuel
- Perfumes, aftershaves, and colognes
- Cosmetics (nail polish, nail polish remover, astringent)
- Aerosols (spray paint, hairspray)
- Mercury and items containing mercury (some thermometers)
- Cleaning supplies (ammonia, bleach, lye)
- Household solvents (turpentine, acetone, mineral spirits)
- Paints (oil and solvent based) and paint thinners
- Pesticides (e.g. flea collars), herbicides, and rodenticides
- Strike Anywhere Matches
- Pool chemicals
- Alcohol

What are my HAZMAT responsibilities?

1. Conduct visual inspection of all articles being mailed. Pinpoint visible stains, leaks or odors.
2. Listen for broken glass or sloshing liquid.
3. Check delivery address and return address.
 - a. Domestic: The complete delivery and return address are required on packages
 - b. International: The complete delivery and return address are required on letters and packages. Additionally, the bottom line of the address must show the country name written in full (no abbreviations) and in capital letters. A customs form listing the contents of the package is usually required.
4. Ask the customer the following question, "Do any of your articles contain anything liquid, fragile, perishable or potentially hazardous such as lithium batteries or perfume?" Employees must ask all elements of this HAZMAT question and allow for the customer to personally respond.
 - **Customer states, "I don't know the contents" or refuses to answer.**
DO NOT ACCEPT THE PACKAGE without this information.
 - **Customer states, "I am not sure if the contents are a hazardous material or not"**
Following identification of the contents, you should determine the mailability of the material and required packaging, labeling, documentation, and any mail class restrictions. Poster 138, Keep the Mail Safe, can assist in determining the mailability of commonly shipped items.
 - **Customer indicates that the parcel contains "HAZMAT"**
Customer must state the contents. Following identification of the contents you should determine the mailability of the material and determine the required packaging,

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labeling, documentation, and any mail class restrictions. Poster 138 (Keep the Mail Safe) will assist you in determining the mailability of commonly shipped items

5. Verify that HAZMAT labels or preprinted markings match contents.
6. If box is reused and contents do not match the markings, advise the customer that the “old markings” must be removed or blocked out.
7. If markings cannot be removed, the shipment is not acceptable and must be refused.

Many hazardous materials are relatively safe in common use, but may exhibit potentially dangerous characteristics under certain circumstances, such as careless handling, exposure to extreme temperatures, excessive vibration during transport, improper packaging, or storage in proximity to incompatible materials.

Perfumes

- May only be ground shipped domestically using Standard Post
- Total fluid-ounces of perfume in the package cannot exceed 16 ounces
- Multiple containers may be enclosed in a single package, provided the total volume of perfume (or other mailable flammable liquids) doesn't exceed 16 ounces. The package must also include enough cushioning material to prevent breakage and absorb any potential leakage, must be packed in securely sealed secondary packaging, and must be placed in strong outer packaging that is capable of firmly and securely holding the internal receptacles, cushioning material and secondary packaging.
- Must be marked “Surface Only”, or “Surface Mail Only”

eCigarettes/ Nicotine Solutions

- **Issue one** is that Pub 52, section 337.2, provides that mailers generally must not package or combine hazardous materials assigned to different hazard classes within the same mailpiece. This standard would generally prohibit the mailing of a hazard class 9 lithium battery installed in an eCigarette device and packaged with the hazard class 6 nicotine solution. It seems to be generally agreed that a solution of 10% or less nicotine, combined with a nonhazardous material, would be appropriate for direct consumer use (without requiring further dilution before use) and that this would often be the material that mailers would want to ship with the eCigarette device. A 5% or 6% solution seems to be the most common for direct consumer use.
- **Issue two** relates to the toxicity of liquid nicotine, and when diluted with a nonhazardous material, the point it becomes mailable in USPS networks, the point when it is no longer considered a regulated hazardous material by the DOT, and the point when the USPS no longer considers it to be a hazardous material.

Firearms

- Handguns can only be shipped by authorized personnel to certain individuals
- Use only “signature services” outlined in Pub 52
- All firearms must be unloaded
- Parcels must not have any kind of marking

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Cremated Remains

- Must be shipped using *Priority Mail Express*, and, if country permits, *Priority Mail Express International*.
- Should be marked “cremated remains” (Label 139 preferred) on the address side
Note: it is suggested that an address label is placed on the urn.
- Requires inner and outer containers
 - Domestic: The inner container must be strong and durable to protect and securely contain the contents inside. It must be properly sealed so that it is sift-proof.
 - International: A funeral urn is required as the inner container. It must be sealed and sift-proof.
 - Both domestic and international shipping: The outer container must be strong, durable, and sift-proof. Inner container is inserted into the shipping box and padding material added to the bottom, sides, and top to prevent movement.

Lives

- Mailer and shipment must meet certain criteria to assure the safe and effective transport
- Shipments must be clearly marked to identify that the contents are live animals.
- Shipments of live, day-old poultry are assessed a per pound transportation fee when placed in air transportation.
- Shipments via surface are not assessed the transportation fee even though they are handled and processed differently than “normal” items

Lithium Batteries Domestic and International Reference Sheet

What is the difference between a Lithium battery and a Lithium cell?

- **Lithium cell** means a single encased electrochemical unit with a single positive electrode (anode) and single negative electrode (cathode), which exhibits a voltage differential across its terminals.
- **Lithium battery** means one or more lithium cells which are electrically connected together by a permanent means, including case, terminals and markings.

What are the types of Lithium batteries?

Lithium batteries can be classified into three types: Lithium metal, Lithium-ion and very small Lithium batteries (either Lithium Metal or Lithium-ion).

- **Lithium metal batteries** (or lithium alloy batteries) are disposable non-rechargeable batteries that use lithium metal or lithium alloys. Lithium metal batteries are widely used in portable consumer electronic devices such as cameras and flashlights.
- **Lithium-ion batteries** (or lithium polymer batteries) represent a variety of rechargeable batteries and can be used over and over again. Lithium-ion cells and batteries typically power devices such as laptops and cell phones.
- **Very Small Lithium Metal or Lithium-ion Batteries** is a new category, for domestic mail only. Hearing Aids and watches typically are powered by these types of batteries.

What markings and documentation are required for shipping Lithium batteries?

While there are numerous variations of markings and documentation, all mailpieces that are required to bear a Lithium battery marking must also have separate written document.

Documentation must be able to be physically removed from the package. Peel-off stickers are acceptable for this purpose. Written documentation must include:

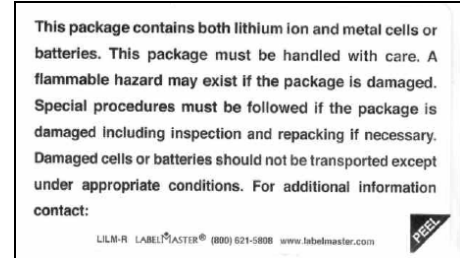
- Indication that package contains “Lithium metal” or “Lithium-ion” cells or batteries
- Indication that package must be handled with care and that a flammable hazard exists if the

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- package is damaged;
- Indication that special procedures must be followed if package is damaged, to include inspection and repacking,;
- Telephone number for additional information.



Example of Markings



Example of Documentation

Specific marking and documentation requirements include:

- **Lithium Metal or Lithium-Ion Batteries – Installed in Equipment**
Mailpieces with less than 4 cells or 2 batteries are not required to bear markings or be accompanied by documentation. Mailpieces with over 4 cells, up to the maximum of 8 cells, must bear an applicable DOT-approved lithium battery handling label (or its equivalent) and be accompanied by written documentation. Mailpieces with 4 or less cells or 2 or less batteries may optionally include markings and documentation.
- **Lithium-Ion Batteries or Lithium Metal Batteries – Packed with Equipment but not installed in Equipment**
These mailpieces must bear an applicable DOT-approved lithium battery handling label (or its equivalent) and be accompanied by written documentation.
- **Lithium Metal Batteries – Batteries Only – Sealed in original packaging**
These mailpieces must bear an applicable DOT-approved lithium battery handling label (or its equivalent) and be accompanied by written documentation. In addition, these mailpieces must also bear a “**Surface Mail Only, Lithium Metal Batteries - Forbidden for Transportation Aboard Passenger Aircraft**” marking. Lithium metal batteries mailed without equipment are acceptable for surface transportation only.
- **Lithium-ion Batteries – Batteries Only – Sealed in original packaging**
These mailpieces must bear an applicable DOT-approved Lithium battery handling label (or its equivalent) and be accompanied by written documentation. In addition, these pieces must also bear a “**Package Contains Lithium-ion Batteries (No Lithium Metal)**” marking.
- **Very Small Lithium Metal or Lithium-ion Batteries**
When very small lithium metal or lithium-ion batteries also qualify as button-cell batteries (see Pub 52 or *Postal Bulletin* 22408 for details) and are installed in equipment, no marking or documentation is required. Otherwise, these batteries are subject to the marking and documentation requirements described above.















*****When in DOUBT...keep it OUT*****

For more information, refer to [Publication 52 - Hazardous, Restricted, and Perishable Mail](#)

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Lithium Batteries

Use the chart below to determine both domestic and international limitations for mailing lithium batteries or items containing lithium batteries.

Lithium Battery Reference Sheet of the Most Common Devices - With Batteries Installed													
Device Type With Batteries Installed		Battery Type	Common Terms Used when referencing Battery Type	Domestic						International - Including APO/FPO			
				Surface Transportation	Air Transportation	Number of Cells typically included in the battery	Documentation	Markings	Limitations ¹	Air Transportation	Documentation	Markings	Limitations ¹
	Bluetooth Headsets	Lithium Ion	Rechargeable	Mailable	Mailable	Generally Single Cell	Documentation required for anything over 4 cells (if Single Cell)	Markings required for anything over 4 cells (if Single Cell)	Maximum of 8 cells Maximum Wt - 11lbs.	Mailable	NA	Markings prohibited	Maximum of 4 cells (if Single Cell)
	Cameras	Lithium Metal or Lithium Ion	Rechargeable or Non-Rechargeable	Reference requirements for Lithium Metal or Lithium Ion mailpieces based on Battery Type									
	Flashlights	Lithium Metal or Lithium Ion	Rechargeable or Non-Rechargeable	Reference requirements for Lithium Metal or Lithium Ion mailpieces based on Battery Type									
	GPS Devices	Lithium Metal or Lithium Ion	Rechargeable or Non-Rechargeable	Reference requirements for Lithium Metal or Lithium Ion mailpieces based on Battery Type									
	Hearing Aid	Lithium Metal	Non-Rechargeable	Mailable	Mailable	Generally Single Cell	Documentation required for anything over 4 cells	Markings required for anything over 4 cells	Maximum of 8 cells Maximum Wt - 5.5lbs.	Mailable	NA	Markings prohibited	Maximum of 4 cells
	Laptop Computers	Lithium Ion	Rechargeable	Mailable	Mailable	Generally Multiple Cells	Documentation Optional (if Multi-Cell)	Markings Optional (if Multi-Cell)	Maximum of 2 batteries	Mailable	NA	Markings prohibited	Maximum of 2 batteries (if Multi-Cell)
	Power Drills...ETC	Lithium Ion	Rechargeable	Mailable	Mailable	Generally Multiple Cells	Documentation Optional (if Multi-Cell)	Markings Optional (if Multi-Cell)	Maximum of 2 batteries	Mailable	NA	Markings prohibited	Maximum of 2 batteries (if Multi-Cell)
	Radio Controlled Toys	Lithium Metal or Lithium Ion	Rechargeable or Non-Rechargeable	Reference requirements for Lithium Metal or Lithium Ion mailpieces based on Battery Type									
	Shavers	Lithium Ion	Rechargeable	Mailable	Mailable	Generally Multi-Cells	Documentation Optional (if Multi-Cell)	Markings Optional (if Multi-Cell)	Maximum of 2 batteries (if Multi-Cell)	Mailable	NA	Markings prohibited	Maximum of 2 batteries
	Smart Phones	Lithium Ion	Rechargeable	Mailable	Mailable	Generally Single Cell	Documentation required for anything over 4 cells	Markings required for anything over 4 cells	Maximum of 8 cells (if Single-Cell)	Mailable	NA	Markings prohibited	Maximum of 4 cells if Single Cell
	Tablets	Lithium Ion	Rechargeable	Mailable	Mailable	Could be either	Documentation required for anything over 4 cells or 2 batteries	Documentation required for anything over 4 cells or 2 batteries	Maximum of 8 cells or 2 batteries	Mailable	NA	Markings prohibited	Maximum of 4 cells or 2 batteries
	Video Cameras	Lithium Ion	Rechargeable	Mailable	Mailable	Generally Multiple Cells	Documentation Optional (if Multi-Cell)	Markings Optional (if Multi-Cell)	Maximum of 2 batteries (if Multi-Cell)	Mailable	NA	Markings prohibited	Maximum of 2 batteries
	Walkie Talkies	Lithium Metal or Lithium Ion	Rechargeable or Non-Rechargeable	Reference requirements for Lithium Metal or Lithium Ion mailpieces based on Battery Type									
	Watch	Lithium Metal	Non-Rechargeable	Mailable	Mailable	Generally Single Cell	Documentation required for anything over 4 cells	Markings required for anything over 4 cells	Maximum of 8 cells Maximum Wt - 5.5lbs.	Mailable	NA	Markings prohibited	Maximum of 4 cells
<p>1. When a mailpiece limitation of 8 cells or 2 batteries (4 or 2 for International) is applicable, a mailpiece may contain either 8 cells or 2 batteries (4 or 2 for International), not both.</p> <p>2. Each cell must not contain more than 1g lithium content.</p> <p>3. Each battery must not contain more than 2g aggregate lithium content.</p> <p>4. Each cell must not exceed more than 20 Wh (watt-hour rating).</p> <p>5. Each battery must not exceed 100 Wh.</p> <p>6. Each lithium metal or lithium alloy cell or battery must not exceed 0.3 gram of lithium content.</p> <p>7. Each lithium-ion or lithium polymer cell or battery must not exceed 2.7 Wh.</p>													