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**PG 8** 

A LOOK INSIDE UN-CERTIFIED PACKAGING

**PG 10** 

WHAT'S YOUR HAZARD CLASS ZODIAC SIGN?

YOU WON'T GET ANY STATIC FROM US!

P TO 40%

LABEL ASTER®



### Welcome to the fifth issue of the Dangerous Goods Report

Businesses that ship lithium batteries—especially retailers—had a challenging 2015, and 2016 looks to bring more of the same. Where can they find answers?

This issue of the *Dangerous Goods Report* recaps the changes in lithium battery shipping regulations since last summer, and includes solid suggestions from our in-the-trenches expert. We also explore the purpose and properties of UN packaging and take a closer look at anti-static drum labels and security seals. And our new infographic asks the unlikely question: What if the 12 signs of the Zodiac were replaced by the nine hazmat classes?

As always, we at Labelmaster are here to help you make sense of the everchanging Dangerous Goods landscape. We hope you find the information and solutions in the Dangerous Goods Report to be useful, and we welcome any questions.



Alan Schoen President of Labelmaster

# ONLINE RESOURCES



#### **GET CONNECTED**

For more information on handling lithium batteries throughout your DG supply chain, visit labelmaster.com/ lithium-battery-shipping.



#### STAY INFORMED

The world of DG is constantly changing. To find updates on a wide range of DG topics, including lithium battery shipping, visit blog.labelmaster.com



#### **HEAR FROM OUR EXPERTS**

The Master Series is a collection of short videos that provides practical perspectives on current DG issues. For more, visit labelmaster.com/masterseries.



#### **MAINTAIN COMPLIANCE**

From advanced shipping software to logistics consulting, Labelmaster Services can help keep your business on the right side of DG regulations. Visit **labelmaster.com/services** to learn more.



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SHIPPING LITHIUM BATTERIES BY AIR KEEPS GETTING MORE COMPLEX. HOW CAN RETAILERS COPE?



#### **FACT #1:**

Devices powered by lithium batteries grow more popular every year.

#### **FACT #2:**

Under certain conditions—when overheated or damaged, for example—lithium batteries can spontaneously burst into flame.

#### **FACT #3:**

To protect the public, air cargo carriers and regulatory agencies continually redefine their restrictions on battery shipments.

Combine those facts, and it's easy to see the challenges faced by any business that ships battery-powered products by air—challenges that have multiplied in just the last few months.

## A MORE COMPLEX LANDSCAPE IN THE AIR

Since summer 2015, the landscape for shipping lithium batteries by air has grown exponentially more complex.

**July 2015:** Boeing issued new guidance recommending much stricter limits on the carriage of lithium ion batteries on its aircraft.

**August 2015:** New U.S. Department of Transportation regulations eliminated the 12/24 exemption, which allowed shippers to avoid special labeling on low-quantity shipments.

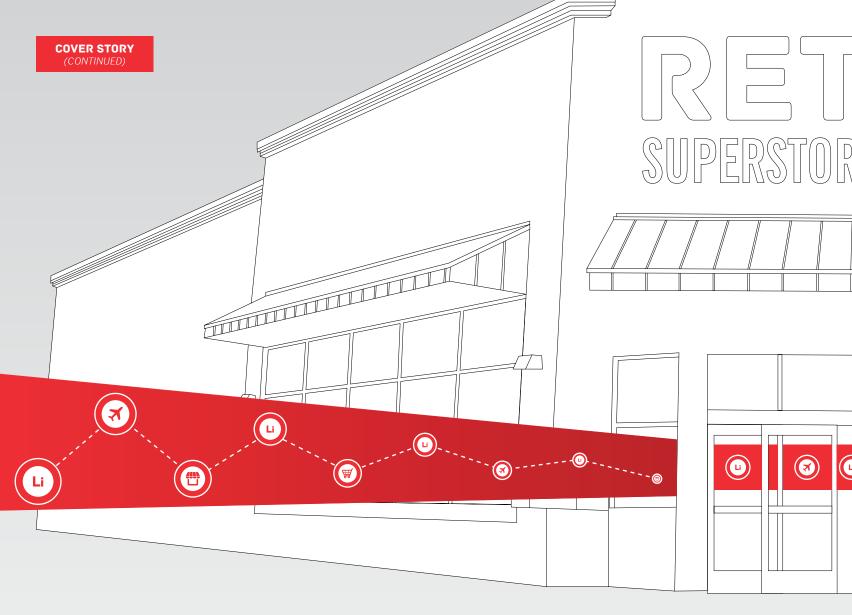
**August 2015:** Lufthansa became the most prominent airline to ban standalone shipments of lithium batteries on its passenger flights.

**January 2016:** The International Civil Aviation Organization (ICAO) required a 30% state-of-charge limit on lithium ion batteries in air transport, effective April 1.

**January 2016:** ICAO's Air Navigation Commission recommended that lithium ion batteries be prohibited from transport on passenger aircraft.

**February 2016:** ICAO's Air Navigation Commission prohibited, on an interim basis, lithium ion batteries (UN 3480) as cargo on passenger aircraft, effective April 1.

In the space of less than a year, some shipments that once required no special handling at all have had strict labeling and packaging rules applied—and then been virtually banned from air transport altogether.



#### **RETAIL TRIES TO KEEP UP**

Virtually every industry depends on battery-powered devices to some extent, but **retailers may face the greatest variety of shipping challenges,** and face them most often.

The most recent regulations don't make it any easier.

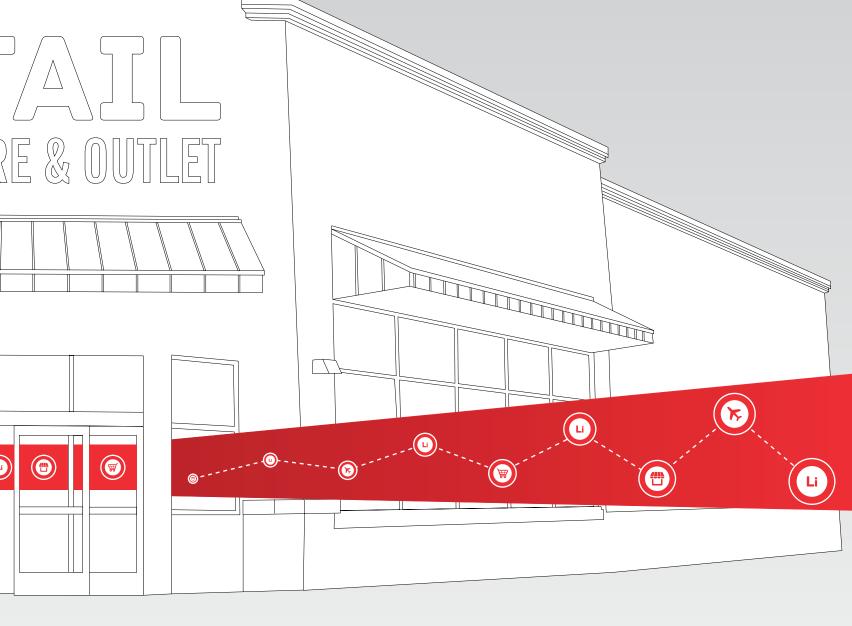
"Downstream distributors don't have the means to test the state of charge of batteries they're shipping," says Labelmaster Senior Consultant Mike Pagel. "There's never been a limit before. This is a really quick turnaround for such significant changes."

He says air shipping is simply becoming a less viable option for many retailers. "You just can't train thousands of employees to know the infinite permutations of batteries, configurations, and labels X, Y and Z. Not one of my customers says they'll ship battery products fully regulated by air—it's just too complex."

#### STICKING TO THE GROUND GAME

Pagel advises retail clients to streamline their shipping processes through automation and training. He also makes two broad recommendations:

- ◆ Build in more lead time. "If you're shipping one package to one customer, you'll still be okay shipping by air. But if you're shipping dozens of packages a day to the same customer or retail partner, ground probably makes more sense than fully regulated by air." Retailers should be prepared to plan inventory months ahead of time as they push shipments to ground or ocean transport.
- Minimize your risk with reverse logistics and customer returns. Pagel advises sticking to the ground game. "You don't know what happened to that battery or that device from the time it got to the customer to the time they're returning it—if it's damaged, then it's an even greater risk. And there's no need to receive it overnight, so there's no reason to have an untrained person package a battery for air shipment. It just doesn't pay."



#### PROTECT YOURSELF FROM THE NEXT HOLIDAY GIFT FIASCO

Hoverboards were *the* big gift this past holiday season, beloved by teens, tweens and orthopedic surgeons alike.

But then came the online videos with hoverboards exploding into flames. Within weeks, retailers found themselves grappling with the challenge of shipping thousands of returns under a bewildering tangle of regulations and changing carrier restrictions.

How can retailers avoid these headaches when next year's blockbuster battery-powered device arrives?

Pagel says, "It all starts with the quality of the product itself. When an item gets popular, manufacturers will try to make it at the lowest cost. Some of these hoverboards used poor-quality batteries that did not meet the required UN testing criteria.

## "The best advice is to buy from reputable manufacturers and ask for the test reports."

"But there also needs to be more awareness of the disconnect between the people buying the product and the retailer's Dangerous Goods advisor. Give Dangerous Goods people input into purchasing decisions, and you can avoid these problems."



## A LOOK INSIDE UN-Certified Packaging

If you ship Dangerous Goods regularly, you're familiar with the term "UN packaging," or "UN-certified packaging." You know that UN packaging is required for all shipments of anything regulated as Dangerous Goods, and you always make sure the specifications of your packaging match the requirements of your shipment.

If you're new to the world of DG shipping, however, UN packaging can be a bit confusing. You might find yourself asking:

- Do I really need it?
- Is it worth the extra expense?
- What does that long string of letters and numbers mean?
- And how do I know if I need UN4G/Z3/S/15/USA/LM000 or UN/4G/X3/S/15/LM000?

#### **A BRIEF HISTORY**

The UN first began providing guidance on packaging in 1956 with the publication of *Recommendations* on the *Transport of Dangerous Goods*. In 1996, these recommendations were split into two parts, with suggestions for laws regulating the transportation of DG becoming the *Model Regulations* and guidelines for packaging becoming part of the *Manual of Tests and Criteria*. While these guidelines are not legally binding in and of themselves, they are used as the basis for laws created by the U.S. DOT, Transport Canada, IMO, ICAO, etc.

The purpose of the packaging recommendations was straightforward: to provide standards and testing criteria that ensure the packaging used for Dangerous Goods will prevent the escape of the materials (solids, liquids or gasses) contained within.

#### **PASSING THE TEST**

In order to be UN-certified, packaging has to be tested by an appropriate authority. The testing varies by the nature of the materials the packaging is expected to contain, but it involves a variety of challenges that simulate possible conditions encountered during transport.

- Drop tests—Assembled packages are dropped from specific heights on each side and the corners to ensure containment.
- Stack tests—Empty packages are placed on top of each other to ensure they won't collapse when stacked.
- Vibration tests—These simulate the conditions encountered during travel by truck, boat, train or airplane.
- Cobb water absorption test—This test measures how much moisture fiberboard will absorb through exposure.
- Pressure differential—This test is for packages of liquid transported by air that will be subjected to pressure variations during transit.

Any new packaging—or changes to an existing design—must be tested to meet UN standards before the packaging can be approved for use with DG.

At Labelmaster, we use an independent, DOT-certified testing laboratory to ensure the compliance of all our Performance Plus UN Packaging, from assembled kits to individual components such as bottles, paint cans, drums, jugs, pails, f-style cans and poly bottles. We also have certified specialty packaging for lithium batteries and electronics.

#### MAKING THE RIGHT CHOICE

When it comes to shipping Dangerous Goods, skimping on packaging is a recipe for disaster. At the very least, not only can your shipments be rejected for non-compliant packaging, you could also face significant fines—anywhere from \$500 to \$16,500 per violation. And the situation only gets worse if the packaging fails during transit and the Dangerous Goods escape. Then you're looking at potential injuries to people and property along with damage to your company's reputation.

Labelmaster offers a complete line of UN-certified packaging components and kits to meet nearly any DG shipping need, and we can offer expert guidance in the selection and use of these solutions.

**SEE PAGE 14** for special pricing on packaging!

#### **BREAKING THE CODE**

The letters and numbers that comprise the UN markings on UN-certified packaging might look confusing at first glance, but once you know what the individual segments represent, you can quickly identify the packaging attributes. Let's break it down.

#### UN4G/X3/S/15/USA/LM000

The **first number and letter** after the UN symbol indicate the **type of packaging and the material** it's made of.

ТҮРЕ		
1	Drum	
2	Wooden barrel	
3	Jerrican	
4	Вох	
5	Bag	
6	Composite packaging	
7	Pressure receptacle	

So, in this example, we're looking at a box (4) made of fiberboard (G). These designations can become more complex when dealing with combination packaging (inner packaging for the material itself and outer packaging for shipping).

	MATERIAL		
Α	Steel		
В	Aluminum		
С	Natural wood		
D	Plywood		
F	Reconstructed wood		
G	Fiberboard		
Н	Plastic		
L	Textile		
М	Paper, multi-wall		
N	Other metal		
Р	Glass, porcelain, stoneware		

#### UN4G/X3/S/15/USA/LM000

The next letter indicates the **packing group level equivalent**. All Dangerous Goods are assigned to a packing group according to the relative degree of danger they pose. You can find what packing group your DG belongs to by checking its Safety Data Sheet (SDS) or looking in the Hazardous Material Table (HMT) in Title 49 CFR 172.101.

Χ	Packing Group I	Highest degree of danger
Υ	Packing Group II	Medium degree of danger
Z	Packing Group III	Lowest degree of danger

The letter X indicates that this fiberboard box is suitable for Packing Group I materials. Under the regulations, if a packaging has been tested to the highest degree of danger, it may be appropriate to place materials that have a lower hazard in that packaging. So, Packing Group I packaging can be used for Packing Group II or III materials, but Packing Group III packaging cannot be used for Packing Group I or II materials.

#### UN4G/X3/S/15/USA/LM000

The next number depends on whether the Dangerous Good in the packaging is a solid or liquid.

- For solids, the number indicates the maximum gross weight (in kilograms) for the packaging and all contents.
- For liquids, the number represents the highest specific gravity (a material's density compared to water) allowable for the materials in that packaging.

#### UN4G/X3/S/15/USA/LM000

The next character also depends whether the Dangerous Good is a solid or liquid.

- ◆ For solids, an "S" will be used.
- For liquids, the hydrostatic test pressure of the packaging will be listed; e.g., "250," indicating the packaging was tested to 250 kPa.

#### UN4G/X3/S/15/USA/LM000

These characters indicate the last two digits of the year the packaging was manufactured, and the country in which it was manufactured.

#### UN4G/X3/S/15/USA/LM000

Finally, there is the identification code of the party certifying that the packaging meets all the required testing. You can find more information, including a downloadable chart, at labelmaster.com/un-markings.



## What's Your HAZARD CLASS ZODIAC SIGN?

How can you, the Dangerous Goods professional, know your personality type? Simple—just figure out which hazard class you belong to! Then, whatever "sign" you call your own, you'll know what fate has in store for you!



## CLASS 1 EXPLOSIVES

#### January 1 to February 10

You don't do anything quietly. People like your ability to remove obstacles, but they're wary of you getting out of control.



#### **IDEAL PARTNER:**

Class 2 (Gasses)
When you two get together, look out!



#### **PARTNER TO AVOID:**

Class 6 (Poison)
Poison is patient; you're... not.
You just want different things.

#### **2016 PREDICTION:**

You'll start the year with a bang—and probably end it the same way. If people can't handle your occasional blow-ups, they can't say they weren't warned.



## CLASS 2 GASSES

#### February 11 to March 22

You're a shape-shifter. People find you mysterious. You spend a lot of time under pressure, and sometimes you just need to let it all out.



#### **IDEAL PARTNER:**

#### Class 6 (Poison)

You're both under-the-radar, behindthe-scenes types who know the value of a breath of fresh air.



#### PARTNER TO AVOID:

#### Class 1 (Explosives)

Hard to Detect, meet Hard to Define.

#### **2016 PREDICTION:**

Try to contain yourself, because otherwise you're at the mercy of the wind.



#### CLASS 3

#### **FLAMMABLE LIQUIDS**

#### March 23 to May 2

Most of the time you go with the flow, but you sometimes heat up in the wrong situation. People are careful with you.



#### **IDEAL PARTNER:**

## Class 4 (Flammable Solids) You're opposites, but you both love a toasty fire.



#### PARTNER TO AVOID:

## Class 9 (Miscellaneous) Your get-togethers sometimes make

Your get-togethers sometimes make a big splash, but more often they just go pffft.

#### 2016 PREDICTION:

Everything flows downhill—don't fight what you can't change. And watch out for those "combustion" factors: fantasy football, unreplaced toilet paper and people who drive 55 in the left lane.



## CLASS 4 FLAMMABLE

## SOLIDS May 3 to June 12

You're dependable—people know where you stand, and trust you to not just shift with the wind or disappear into thin air.

But you can be volatile, too.



#### IDEAL PARTNER:

Class 7 (Radioactive)
As long as you're both in your element, you don't mind that your partner's a bit unstable.



#### PARTNER TO AVOID:

Class 2 (Gasses)
You can't even share the same space.

#### **2016 PREDICTION:**

You're at your best with your volatility under control, so try to avoid whatever sets you off: college sports, politics and that brother-in-law who won't shut up about *Game of Thrones*.

#### **DISCLAIMER**





## CLASS 5 OXIDIZER



You can be stable, but you have a tendency to bring out the worst in others. You like to mix it up—with unpleasant consequences.



#### **IDEAL PARTNER:**

#### Class 9 (Miscellaneous)

You might set each other off once in a while, but it's usually a peaceful coexistence.



#### PARTNER TO AVOID:

#### Class 1 (Explosives)

One bad interaction and the results can be a major disaster.

#### 2016 PREDICTION:

Let everyone else herd together at hookah bars, pickleball games and Black Friday sales. You're happiest by yourself.



## CLASS 6 POISON

#### July 24 to September 2

Let's face it—people tend to react badly to you. Even those who need you around handle you with care.



#### **IDEAL PARTNER:**

#### Class 7 (Radioactive)

Like two wallflowers at a party, you at least have something in common.



#### PARTNER TO AVOID:

Class 8 (Corrosive)
Why be with someone who makes
you feel even worse about yourself?

#### 2016 PREDICTION:

When you make yourself useful, people will accept you for what you are. And if they handle you badly, they'll get what they deserve.



## CLASS 7 RADIOACTIVE

#### September 3 to October 13

You can't imagine why some people are so uncomfortable around you. After all, your relationships typically have a long half-life.



#### **IDEAL PARTNER:**

#### Class 8 (Corrosive)

They may wear on everyone else, but they're no match for your unlimited energy.



#### PARTNER TO AVOID:

#### Class 1 (Explosives)

Your previous encounters have been historical disasters.

#### **2016 PREDICTION:**

You have the capacity to light up everything you touch. Haters gonna hate, but they can't stop you from shining.



#### CLASS 8

#### **CORROSIVE**



You're the curmudgeon, the cynic, the naysayer.
You may not be popular, but every
organization needs someone like you.



#### IDEAL PARTNER:

#### Class 2 (Gasses)

No matter how caustic you get, you can't hurt someone who's so insubstantial.



#### PARTNER TO AVOID:

#### Class 5 (Oxidizer)

You eat away at them; they burn you up. Run!

#### **2016 PREDICTION:**

You are who you are, and you do what you do. You leave your mark on everyone you touch, and if they can't deal, they're just a buncha oversensitive poltroons.



#### CLASS 9

#### **MISCELLANEOUS**

#### November 24 to December 31

You're the oddball, the independent. You just don't fit in—but that's okay, because you're more popular than anyone else.



#### IDEAL PARTNER:

#### Everybody

You offer something for everyone, even if you can be a minor irritant.

#### PARTNER TO AVOID:

#### Nobody

You're the polish on our nails, the amps in our Androids, the pepper in our personal protection spray. What's not to like?

#### **2016 PREDICTION:**

You're so many things to so many people, we might just need another category for you someday. **Stay weird!** 



#### **FIND YOUR MATCH!**

Whatever "sign" you call your own, you'll always find the exact Dangerous Goods identification you need with

#### Labelmaster's Placard Finder

labelmaster.com/placardfinder

and

#### Label Finder

labelmaster.com/labelfinder



SOFTWARE PRODUCTS SERVICES



## ELECTROSTATIC DISSIPATIVE (ESD) LABELS MAKE WORKPLACES SAFER

When you get "zapped" by a light switch or you find a stray sock stuck to your pants, static electricity is annoying, in a funny way.

When a spark gets released in a warehouse full of flammable materials, there's nothing remotely funny about it.

"In certain industrial settings—chemical plants and coatings manufacturers, for example—mitigating the effects of static electricity is critical," says Labelmaster Product Engineer Tom Chekel. "You see static charges generated by surface resistance as liquids move through pipes, or as they empty into larger containment vessels."

He points out another, lesser-known source of static. "Traditional laser printing is an electrostatic process that actually **adds** additional charge to labels as toner inks are bonded to label surfaces.

"There's a static discharge generated when a label is separated from its liner (carrier) and then applied to a container. This is a critical moment, because the static charge that's created at this moment could potentially ignite vapors surrounding a container as it's being labeled."

Labels that carry a strong electrostatic charge add unwanted risk to combustible, fuel-rich environments.

## ESD LABELS ARE A SAFER ALTERNATIVE

"If you handle volatile materials, you equip your employees and workplace with anti-static measures," says Chekel. These measures routinely include conductive wrist and foot straps, anti-static floor mats, conductive paints and careful temperature and humidity controls.

## Electrostatic dissipative (ESD) labels should be a vital addition to that list.

Labelmaster's ultra-porous, super static-absorbent ESD labels naturally dissipate static by:

- Reducing the time a label holds a charge during printing, application and removal. The quicker a label dissipates static, the less likely it is that a discharge spark will occur.
- Reducing the charge buildup on a label after it's been applied, thereby lessening the chances for future discharges.



"Our ESD labels are also tear-resistant and impervious to abrasion. They resist chemicals, solvents, water and anything else you can throw at them," says Chekel. "They're not only inherently safer for hazardous environments, but also virtually indestructible."

See our complete selection of ESD labels labelmaster.com/anti-static-drum-labels



## SEALS ARE CRITICAL TO SHIPPING SECURITY

Say "seals" to most people, and they'll picture cute, playful aquatic mammals.

Say "seals" to Dangerous Goods professionals, and they'll know you're talking about a critical component of shipping and storage security.

Seals run the gamut from lightweight plastic bands to virtually indestructible steel bolts, but they all fall into two broad categories:

- Indicative seals demonstrate if an item has been tampered with. They can easily be broken, since their function is to demonstrate entry, not deter it.
- Barrier or security seals, along with revealing tampering, also deter theft because they are harder to remove.

Typically used on ocean containers, rail cars and long-haul trucks, the right seals (or combinations of seals) ensure the highest levels of security for valuable and sensitive cargo.

## COMPREHENSIVE IMPORT SECURITY: C-TPAT COMPLIANT SEALS

After September 11, 2001, U.S. Customs and Border Protection initiated the Customs-Trade Partnerships Against Terrorism (C-TPAT) certification program. Shippers with C-TPAT certification enjoy easier movement of freight through the international supply chain.

To comply with C-TPAT requirements, companies must use seals that meet the "High Security" standard established by the International Standards Organization. These barrier seals require specialized, industrial-strength tools to open, and must demonstrate resistance to high levels of pulling, bending and crushing.

Labelmaster offers a complete selection of C-TPAT compliant security seals such as high-strength bolt, cable and container bar seals. We can help you choose the right C-TPAT seals for your cargo—call **800.621.5808** to speak with one of our security specialists.

Save up to 40% on our full selection of seals, barcoded or customized to fit your needs—and delivered with shorter lead times—at labelmaster.com/security/seals.

DEALS ON SEALS

Seals are critical for DG security. See page 14 for details.



#### You can ship lithium batteries—or any other Dangerous Goods—with confidence when you have the right supplies.

Get great deals on these labels, packaging and other shipping products, and find a comprehensive selection of hazmat transport supplies at <u>labelmaster.com</u>. *All prices shown here are valid through April 30, 2016.* 



#### Seriously Damaged Lithium Battery Shippers

#### KLITDAMLG

22<sup>7</sup>/8" x 14<sup>3</sup>/8" x 13<sup>1</sup>/2"

This special permit packaging allows shippers to transport damaged or defective lithium cells or batteries by cargo aircraft. The outer walls of the packaging can withstand the full energy of the battery inside, while the non-combustible cushioning material works to actively suppress any fire or dangerous evolution of heat. This package is constructed to fully contain lithium battery hazards, ensuring that no heat, smoke or fire is transferred to surrounding cargo. *More sizes and styles available on labelmaster.com.* 

Reg. price: \$210.62 Sale price: \$179.03



Labelmaster's 4GV boxes are the smart packaging choice for shipping liquids, solids or articles by any mode of transportation. These UN-certified and marked boxes (also known as Variation Two boxes) and shippers are suitable for Packing Groups I, II and III liquids, solids or articles. Made of 200# SW or 275# DW corrugated fiberboard, they can also be used to ship items such as machine parts and batteries.



## Variation Two Shippers

#### UN4GV950

 $7^{13}/_{16}$ " x  $7^{13}/_{16}$ " x  $12^{1}/_{2}$ "

Components include:

- UN marked fiberboard box
- Fiberboard insert for 8 oz. (or smaller) containers
- Fiberboard pads
- Absorbent-lined bags
- TieTape

#### **Shippers**

Reg. price: \$11.05 Sale price: **\$9.39** 



#### Variation Two Boxes

UN4GV10

 $10^{3}/_{4}$ " x  $10^{3}/_{4}$ " x  $15^{3}/_{4}$ "

Many more 4GV boxes and shipping kits are available online.

#### **Boxes**

Reg. price: \$7.94 Sale price: \$6.75



## 4 x 1-Gallon Paint Can Shipper with Fiberboard Insert

#### UAC1G4A

Safely store and ship paint, coatings, solvents and other hazardous materials with Labelmaster's Metal Packaging Kits for 1-gallon paint cans. These shippers fully meet ISTA Procedure 1A requirements. They can be ordered assembled, unassembled, or unassembled without the container if you choose to use your own metal paint can with ring lock. Our packaging engineers also can work with you to design customized packaging that meets your requirements. Components include:

- Paint cans with lids and universal ring locks
- UN marked fiberboard box
- Fiberboard inserts
- Liner bags
- Tape

Reg. price: \$23.83 Sale price: \$20.26





#### **G2G Pallet and Crate Seal**

#### KG2GPCS1

The G2G Snap-N-Secure™ is the only pallet and crate seal that can easily be applied without any tools. Great for use on both steel and poly strapping from ½" to ¾", these seals are made of strong, clear polycarbonate plastic with a breaking strength of more than 100 PSI. The seals are sequentially numbered with a unique serial number and sold in cases of 50. You can customize your seal with various barcodes, inkjet markings or consecutive numbering for tracking from point of origin to destination—complete chain of custody security.

Price: \$137.00



#### **G2G Stock Truck Seal**

#### G-STS-RD

This plastic fixed-length truck seal is ideal and available when you need seals in a hurry. The hot stamped seals are marked "SECURED" with consecutive numbers in contrasting colors, allowing for easy identification. Ideal for use on trucks, trailers, ocean containers and animal ID tags. These 81/4" seals are sold in bags of 100. *More colors and personalized options available on labelmaster.com.* 

Price: \$20.00



#### G2G 12" Cable Seal

#### G-116S12-BU

Made of 1/16th NPC (non-preformed cable), this easy-to-apply 12" cable seal is widely used in a variety of applications such as on trucks, trailers, storage units, milk trucks or any application where small hasps are present. Proudly made in the USA, this seal is offered in mill finish or in powder-coated colors with a tensile strength of 700 lbs. Seals are marked "SECURED" and consecutively numbered for stock orders. Find more sizes and colors online. Sold in cases of 100.

Price: \$2.19 per seal

## **SAVE UP TO 40%**



#### **Lithium Battery Document Labels**

#### LIBCE

Both HMR and ICAO TI require a document to accompany a shipment indicating the package contains lithium batteries and that special procedures must be followed if the package is damaged. Our new peel-away document on dry-release paper—approved by PHMSA—fulfills this requirement. You can use these documents to help comply with 49 CFR and ICAO. Sold in rolls of 500. Find the full document label selection for all types of lithium battery shipments on labelmaster.com.

Reg. price: \$50.00 Sale price: \$40.00



#### Lithium Battery 2-in-1 Handling Labels

#### L745

This 2-in-1 lithium battery handling label and document label contains the required compliant labels for certain packages carrying lithium ion or metal batteries. The two labels are printed as a single unit, ensuring that both label and document are affixed to the shipping carton. They are separated by a perforation so the document can be easily detached. The label is backed with a "low-tack" adhesive that enables either label to be detached from cartons with minimal corrugated fiber tear. Sold in rolls of 500 in direct thermal paper. Find the full label selection for all types of lithium battery shipments on labelmaster.com.

Reg. price: \$83.00 Sale price: \$66.40



#### **Lithium Battery Markings**

#### IL245

These lithium battery markings are used on packages of rechargeable lithium ion or polymer batteries or non-rechargeable lithium metal batteries. They may be used to help meet the revised requirement for including the appropriate phone number for additional information. These semi-gloss paper markings are sold in rolls of 500. Find the full selection of lithium battery markings on our website.

Reg. price: \$26.88 Sale price: \$22.85



#### Lithium Battery Damaged/ Defective Markings

#### L490

These lithium battery damaged/defective markings are used on packages of lithium ion, polymer or metal batteries to indicate that they may contain lithium batteries that are either damaged or defective. These 6" x 1" markings may be used to meet the 49 CFR 173.185(f) requirement for marking shipments of damaged or defective lithium cells or batteries. Constructed of semi-gloss paper. Sold in rolls of 500. More markings available online for other types of lithium battery shipments.

Reg. price: \$35.75 Sale price: \$26.80



#### **Cargo Aircraft-Only Markings**

#### L<sub>20</sub>F

When shipping by air, this marking is required on all packages prepared in accordance with cargo aircraft-only packing instructions. Available in semi-gloss paper, these 110mm x 120mm markings meet 49 CFR and ICAO design requirements. More materials and formats available online.

Reg. price: \$46.00 Sale price: \$26.00



#### Class 9 Preprinted Shipping Name Labels

#### HSN6500R

These labels satisfy both marking and labeling requirements at one time. Preprinted with UN3481 "Lithium Ion Batteries Contained in Equipment," they are available in semi-gloss paper and offered in standard tab (100mm x 120mm). These labels pass the DOT 30-day exposure test and are sold in rolls of 500. Find more preprinted labels with the most requested UN numbers and shipping names on labelmaster.com.

Reg. price: \$41.50 Sale price: \$33.20



#### **Anti-Static Drum Labels**

#### AS814W2

These drum labels are made with a static dissipative material that reduces the potential for static discharge and igniting of chemical vapors. Can withstand rough handling, harsh chemicals, extreme temperatures, UV exposure, moisture, scraping and abrasion. Have outstanding adhesion to painted steel, fiber or plastic drums, and meet the IMO 90-day seawater immersion test. Imprinted with 2 colors. Can be customized with all the information you want, including DOT hazard class and GHS information.  $8^3/_8$ " x  $14^7/_8$ ". Sold in packs of 250. More options for anti-static labels are available on labelmaster.com.

Reg. price: \$480.40 Sale price: \$384.32



### Ground-Only Lithium Battery Kits

This convenient polyethylene drum can transport single lithium ion or lithium metal batteries known to be damaged or defective. The closure design allows for proper UN closure without the need for any special tools. The interior of the package is designed to ensure that the shipment is well protected. This package may be used to help comply with CFR 49 173.185. Shipped fully assembled and ready for use. More sizes available online. Components include:

- Plastic pail and lid
- Corrugated insert
- Label
- Bubble bag
- Absorbent pouch
- Closure instructions

Reg. price: \$22.92 Sale price: **\$19.48**