Welcome to the 11th issue of the Dangerous Goods Report

Today’s “I want it now” e-commerce consumer has forced every supply chain organization to rethink and re-engineer how they do business. How do Dangerous Goods professionals ensure compliance in the new environment?

That’s the question we answer in this issue’s cover story, which examines the challenges of e-commerce hazmat compliance and the solutions employed by leading organizations. Other stories introduce a new line of labels, marks and placards for extreme conditions, take a closer look at lithium battery packaging testing, and reveal some key findings of the 2019 Global DG Confidence Outlook.

As always, we at Labelmaster are here to help you make sense of the ever-changing hazmat transport 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
HAZMAT TRANSPORT IN TODAY’S “GET IT TOMORROW” WORLD.
How top DG pros handle compliance and safety in the new e-commerce landscape.

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HAZMAT TRANSPORT IN TODAY’S “GET IT TOMORROW” WORLD

HOW TOP DG PROS KEEP E-COMMERCE SHIPPERS COMPLIANT
E-commerce has reshaped the retail supply chain over the last 10 years, and its impact likely will continue expanding. With double-digit growth year after year, e-commerce now represents more than 15% of global retail sales.

**E-COMMERCE AS A PERCENTAGE OF RETAIL SALES:**

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<thead>
<tr>
<th></th>
<th>Global</th>
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<td>Percentage</td>
<td>15.2%</td>
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Retailers and their supply chain partners are adapting to the new e-commerce landscape, but Dangerous Goods compliance and safety are ongoing challenges.

Companies new to e-commerce sometimes don’t even know they’re shipping hazmat. More established shippers often struggle to maintain best practices for compliance and efficiency in a fast-changing world.

Here's a look at the challenges e-commerce shippers face, and how top Dangerous Goods pros help them keep shipments safe, compliant, affordable and fast.

**DECENTRALIZED OMNICHANNEL SHIPMENTS**

If you’re an e-commerce customer—and who isn’t these days?—you have expectations that would have been unthinkable a generation ago.

You know exactly what you want, and you want it tomorrow. If not sooner.

To meet those expectations, many e-commerce shippers have abandoned the traditional distribution center model for a decentralized omnichannel approach. **Shipments can originate from almost anywhere and can travel by any modes necessary.**

That’s great if you’re shipping candy bars or compact discs—but what if those shipments contain Dangerous Goods? Without a centralized distribution center, who has the knowledge and authority to make sure each shipment is compliant?

**THE STARTUP MENTALITY**

Many newer e-commerce shippers are smaller organizations—even individuals—with a scrappy, agile approach to business. They change product specifications frequently and charge into new markets with abandon.

That mentality is great for growing a business from scratch, but it’s hard to reconcile with Dangerous Goods compliance. Effective compliance requires long-range advance planning, comprehensive training (more on that later) and a commitment to standardized processes—and startups just don’t think that way.

Dangerous Goods are a blind spot for many newer businesses. They may know about environmental and worker protection regulations, but too frequently are not even aware they’re shipping hazmat.

(continued on next page)
REGULATIONS FROM ANOTHER ERA
The fact is, many regulations were written before e-commerce even existed.

We know how hard people at regulatory agencies work and how carefully they try to balance business considerations with public safety. But regulations evolve like an aircraft carrier changing direction, while e-commerce zips around like a speedboat.

There is no excuse for non-compliance, but compliance can be even more difficult when the rules don’t align with the business model.

MANY UNHAPPY RETURNS
Along with overnight delivery, online shoppers expect hassle-free, no-cost returns. In fact, e-commerce purchases get returned more than three times as often as brick-and-mortar purchases.¹

Returns of any merchandise can be complicated, but when the merchandise is Dangerous Goods, the complication goes exponential. In many cases, a completely untrained consumer must be trusted to compliantly ship something that’s fully regulated hazmat. What could go wrong?

MEETING THE DG CHALLENGES OF E-COMMERCE
Many e-commerce companies manage to maintain excellent hazmat compliance along with profitable efficiency. How do they do it?

Here are some strategies and tactics shared by Labelmaster experts and top supply chain organizations.

BLENDED, CUSTOMIZED TRAINING
Labelmaster Senior Manager Jim Shimko says, “These companies sometimes have high turnover, so they need training programs that teach them safety and the regs they need to know to do their jobs—and eliminate the noise. The less time away from work, the better.”

A blend of convenient online courses and tailored onsite classroom training can be the most cost-effective way to ensure compliance up and down the operation. Smart shippers even train customer service representatives who never handle hazmat, because those reps can then help untrained consumers send their return shipments compliantly.

TECHNOLOGY FOR OPTIMIZED SHIPPING
Shipping everything in the most efficient container via the most efficient route is already too tall a task for most human brains. That’s why transportation management systems (TMS), warehouse management systems (WMS) and cartonization optimization software have gained so much popularity in recent years.

All the above can be integrated with Labelmaster’s DGIS software to give shippers a seamless, streamlined platform for optimizing shipments in full Dangerous Goods compliance.
UNEXPECTED CHANNELS
Can you ship lithium batteries through the U.S. Mail? Many e-commerce retailers don’t realize that’s an option, but most major carriers and many third-party logistics companies already save significant money by using the U.S. Postal Service for final-mile delivery.

Of course, the USPS has its own set of hazmat regulations—known as Publication 52—and sometimes they’re in direct conflict with PHMSA regulations. We never said this would be easy.

WORKING THE SYSTEM
The regulatory system allows flexibility and offers options for shippers who know the regulations. “You need to understand and find exceptions you can apply,” advises Shimko. “Sometimes shippers don’t even know they can ship their goods as excepted quantities or limited quantities without having to buy more expensive UN packaging.”

Securing a special permit can also be a game changer. As an example, Shimko points to a retailer that recently got a permit to transport packages with smaller limited quantity markings.

ORGANIZATION-WIDE BUY-IN
In spring 2019, Shimko and a lawyer co-led a webinar that gave in-house lawyers a 101-level introduction to the world of Dangerous Goods shipping. They recommend a proactive approach—where a company’s in-house legal team is part of the hazmat decision-making operation—over simply reacting when and if there’s an incident.

A proactive, inclusive approach makes compliance part of the conversation just like speed, cost and other considerations—from product development to sales, and all the way up to the C-suite.

A COMPETITIVE ADVANTAGE FOR E-COMMERCE
E-commerce has created strong customer expectations for high-speed, low-cost delivery. Multiply those expectations by billions of shipments a year, and you can see why organizations throughout the supply chain have had to rethink, reorganize and rebuild their processes from A to Z.

Add the complexity of Dangerous Goods regulations, and those challenges get truly colossal. That’s why any e-commerce organization that maintains a high level of compliance without sacrificing efficiency can truly make compliance a competitive advantage.

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1 https://www.digitalcommerce360.com/article/global-ecommerce-sales/
2 https://www.digitalcommerce360.com/article/us-ecommerce-sales/
Is your company “Competitively Compliant”?

Everyone in the Dangerous Goods business knows some companies do the bare minimum to stay compliant, while others leverage superior compliance into a distinct competitive advantage. Why is that the case? And how can DG pros improve overall compliance confidence across the global supply chain?

Our latest Global DG Confidence Outlook offers some answers. With responses from 432 DG pros based all over the globe, this survey—co-sponsored by HCB and IATA—is the first ever to define and explore three broad groups of the DG galaxy. Statistics revealed by the survey defined three groups of companies, each based on how DG pros perceived their companies’ views on hazmat operations. Each group has unique attitudes about confidence, resource availability, technology effectiveness, training and other issues.

WHICH TYPE OF ORGANIZATION ARE YOU IN?

**BASICALLY COMPLIANT**

Companies in the Basically Compliant group view DG management as simply a regulatory mandate.

**SAFELY COMPLIANT**

Companies in the Safely Compliant group have a strong commitment to overall safety in which compliance efforts go beyond regulatory requirements.

**COMPETITIVELY COMPLIANT**

Companies in the Competitively Compliant group view DG compliance as a competitive advantage.
While you can find companies in all three groups everywhere, and many companies have the characteristics of more than one group, we did find some interesting trends:

**FACTS ABOUT THE THREE GROUPS**

### BASICALLY COMPLIANT

With a relative lack of DG infrastructure and resources, the DG pros who work at these companies lack confidence and find compliance more challenging.

Greatest challenges:
1. Company leadership not aware of the risk if something goes wrong
2. Budget constraints
3. Insufficient or ineffective training

If they had additional budget, they would spend it on: More effective training
If your company is in this group, you can focus on: Helping to solve immediate compliance problems to gain confidence; beginning to raise awareness with senior leadership of the value of compliance

### SAFELY COMPLIANT

The DG pros who work at these companies are confident in their ability to manage DG complianly, but they’re often uncertain about the future. Their companies’ investment in DG infrastructure and technology is current within the industry but needs updating to address future needs.

Greatest challenges:
1. Lack of technology
2. Budget constraints
3. Lack of access to resources, information and guidance required to keep up with changing regulations

If they had additional budget, they would spend it on: Technology for better supply chain efficiency
If your company is in this group, you can focus on: Building on the organization's safety mindset to define and prepare for future compliance needs

### COMPETITIVELY COMPLIANT

The DG pros who work at these companies are highly confident in their ability to manage DG complianly, because their companies’ DG investments exceed the industry average.

Greatest challenges:
1. Lack of access to resources, information and guidance required to keep up with changing regulations
2. Lack of technology
3. Budget constraints

If they had additional budget, they would spend it on: Technology for better supply chain efficiency
If your company is in this group, you can focus on: Gaining additional business value by further integrating compliance throughout your organization and with supply chain partners

To learn more about these groups, along with checklists and resources for improvement, download the complete survey results at labelmaster.com/dg-confidence-outlook
Maybe you’ve had a shipment returned because a mark fell off.
Maybe you’ve had to re-placard a drum because the old placard faded.
Or maybe you’re just tired of cleaning drums before you can apply safety labels.

Standard Dangerous Goods labels, marks and placards can endure most normal shipping conditions without fading, peeling or losing adherence. But, explains Labelmaster’s Jill Resendiz, Product Manager of Labels and Placards, “Mother Nature has no respect for your Dangerous Goods compliance record, and some conditions are too harsh for standard labels.”

From bone-chilling Montana highways to sweltering Texas warehouses, your shipments may sometimes face conditions that are anything but normal.
What are “extreme” labels, marks and placards?

Resendiz describes five harsh conditions for which Labelmaster has developed a line of “extreme” labels, marks and placards—where standard products might fall short:

**COLD ENVIRONMENTS**

Polar blizzards? Industrial freezers? No problem! With material designed for cryogenic laboratories, these labels and placards adhere down to -320°F. The edges resist lifting even with repeated changes in the surrounding temperature.

**OILY SURFACES**

Resendiz says, “When there's residue from filling your drums, if you don't really clean them, most labels won't stick. And who's got time for that?” The adhesive backing on these labels and placards absorbs oil, so it adheres directly to lubricated surfaces—textured or smooth.

**WET SURFACES**

“When it’s hot and humid, if your warehouse isn’t climate controlled, ordinary labels will keep falling off,” says Resendiz. “But ‘extreme’ labels have a high-tack rubber-based adhesive that keeps them adhered.” They also stay stuck to low- and high-energy substrates and can be applied from 10°F to 150°F.

**SOLVENT EXPOSURE**

Sprayed, abraded, baked or abused? No worries. These placards and labels stand up to the harshest conditions for extended periods. They offer superior chemical and abrasion resistance while also resisting acids, humidity, high temperatures and UV exposure.

**ULTRAVIOLET EXPOSURE**

Arizona? Dubai? Bring it on! The topcoat of these labels and placards resists fading and deterioration for up to two years, and offers superior resistance to acids, moisture and solvents from -40°F to 257°F.

NOT FOR HAZMAT ONLY!

Because we recognize that your operation may have documentation adherence needs (i.e., information that sticks to stuff) beyond the world of hazmat transport, we can create customized labels or placards for virtually any use under any conditions—for Dangerous Goods and beyond.

As an example, Resendiz points to a carrier currently evaluating “Cold Environment” and “Wet Surface” labels for a contract with a dessert manufacturer.

A few more potential examples:

- Cold labels for laboratories and cryogenics facilities
- “Oily Surfaces” safety and hazard communication labels
- Wet labels compliant with FDA Indirect regulation
- UV-resistant labels and placards for BS5609 Certified Section Two, Marine Immersion

Need solutions for your most challenging conditions? Call **Labelmaster at 800.621.5808**.

For a closer look at our new “extreme” labels, placards and marks, visit **labelmaster.com/extreme-conditions**.

See page 19 for our stock selection of labels and placards for extreme conditions.
Do you know how your lithium battery packaging was tested?

WHY SPECIAL PERMITS SHOULD REFLECT REAL WORST-CASE SCENARIOS

When you ship lithium batteries and battery-powered devices, your packaging must be able to mitigate a thermal runaway event. If it fails, you can have a serious (and seriously expensive) incident on your hands.

So how do you know if your package is good enough? It’s all in the testing.

SPECIAL PERMITS BASED ON SELF-TESTING

Were you aware that when it issues Special Permits, PHMSA relies on test data self-reported by manufacturers?

“The agency simply doesn’t have the resources to conduct tests verifying every data point shared by manufacturers,” says Brian Beetz, Labelmaster Manager of Regulatory Affairs and Corporate Responsibility. “It’s up to the manufacturers to make sure their tests reflect real-world performance.”

Because there’s no universally recognized standard for these self-reported tests, a box could be in full compliance yet still not provide full mitigation of your thermal runaway event.

How can you know if a particular packaging will protect your specific shipments against a realistic worst-case scenario?
5 QUESTIONS YOU SHOULD ASK ABOUT PACKAGING TESTING

For complete peace of mind, here are five questions Beetz recommends you ask your packaging manufacturer about the thermal runaway testing of your lithium battery packaging:

Were the batteries or cells tested at their maximum chargeable capacity? New batteries can maintain a 100% state-of-charge, while older batteries have lower capacities. Regardless, batteries charged to their fullest capacity pose the highest danger in a thermal runaway incident—and tests should reflect this higher degree of risk.

What was the maximum temperature attained in the packages tested? Labelmaster’s Obexion Max packaging, for instance, has mitigated lithium battery fires as hot as 1246°F in test conditions, while the exterior of the box never exceeded the 392°F limit set by its Special Permit.

What actual total watt-hours of the batteries or cells in the package were used in the test? Data submitted for Special Permits covering shipments up to 100 watt-hours do not necessarily have to reflect tests performed with 100 watt-hours of batteries or cells. Some tests use lower wattage.

Were the batteries or devices used in the test similar to the size, quantity and weight of the batteries or devices you ship? Testers can achieve a given level of watt-hours through many combinations of cells or batteries. Tests conducted with the configurations closest to those you actually ship will likely provide the best protection against thermal runaway in one of your shipments.

Has the test simulated the worst-case scenario for the batteries or devices you’re shipping? All these factors combine to create a worst-case scenario test of the shipments you actually make, and only a worst-case scenario test can assure that your packaging can handle, well, a worst-case scenario.

FULLY TESTED UNDER THE MOST DANGEROUS CONDITIONS

A thermal runaway event is one of the most unpredictable, most damaging hazards in Dangerous Goods transport.

That’s why packaging for lithium batteries and battery-powered devices must be fully tested with the specific batteries they’re designed to contain, under the most dangerous conditions in which they’ll ever be shipped.

For example, we test Obexion with brand new batteries, at maximum watt-hours, at a full state-of-charge—because you may not actually know how old the batteries in your shipment will be, or what their state-of-charge will be.

Regardless of where your batteries are in their lifecycle or what you’re shipping, there’s an Obexion package for you. And you can be confident it’s been worst-case scenario tested.

Find the Obexion packaging that meets your lithium battery shipping needs at labelmaster.com/Obexion.

IF LITHIUM BATTERIES ARE THE QUESTION, OBEXION IS THE ANSWER.

Shipping lithium batteries and battery-powered devices compliantly can be challenging, time-consuming and complex.

That’s why we created Obexion—a complete line of protective packaging that mitigates the risks of lithium battery fires. For any type of lithium battery or device, you’ll find a simple, complete and compliant Obexion solution.
DANGEROUS GOODS REPORT

Have fun with these dangerous goods-themed games!

Game #1: Unscramble Me!

Rearrange the letters in the phrases below to spell out common Dangerous Goods terminology. Don’t let the spacing fool you—the solutions may be spaced differently (or not at all!)

1. DOME ______________________________________
2. HEMP TINS ___________________________________
3. ANT IN RIG ___________________________________
4. PICK A GANG __________________________________
5. COMIC PANEL __________________________________
6. PAUNCHY LIPS __________________________________
7. ROUTINE SLAG __________________________________
8. CZAR HAD LASS __________________________________
9. TIRE EMITS HALIBUTS ____________________________
10. LUNATICS IN RICOCHET ACTIONS _________________

(See page 19 for the answers)

Lower Charges and Faster Delivery.

Now, get some of our best-selling labels and placards delivered via ground to select Western states within 24 to 48 hours, with great prices and lower shipping charges.

The Best Deal for Shipping West.

Call 800.621.5808 or visit labelmaster.com/ship-west to learn more.
G O O D S - T H E M E D G A M E S !

GAME #2:
DG Crossword

ACROSS:

2 Wahlberg, Twain and lithium battery
5 This regulatory body was founded in Havana
6 The 3rd element, or a song by Nirvana
8 A runaway that's hard to control
9 Get a new one every 4 years
10 Don't call them stickers
11 The agency that oversees PHMSA

DOWN:

1 One essential shipping document
3 The point where Class 3 can ignite
4 Where the Dangerous Goods Symposium is held
5 The code for shipping hazmat by sea
7 Certain containers, or what Charlie Watts plays

(See page 19 for the answers)
Get prepared for 2020! Order the regulatory publications you’ll need to stay compliant.

**IATA DGR 61st Edition**

Available in a variety of formats to fit your individual needs, these platforms all provide easy access to the latest regulations when and where you need them – from your office, the warehouse or in the field.

The IATA DGR is available in standard print and digital formats. Digital formats include software for Windows computers, floating licenses for Windows computers and the DGR Mobile version. All digital DGR formats auto-update to keep your eDGR current and up to date!

The Windows version offers the DGR in an easy-to-use desktop application with more advanced features. The Mobile version is an e-Book that can be used on any platform on a computer, tablet or phone in a browser or in an app. No need to have an internet connection to access the regulations.

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Visit labelmaster.com/iata to learn more and view the full selection of IATA publications.

**2020 Emergency Response Guidebook**

The ERG is the ideal guide to help when responding to transportation emergencies involving hazardous materials. It is a must-have for everyone who handles and transports Dangerous Goods and hazmat. This guide helps your company comply with the DOT 49 CFR 172.602 requirement that hazmat shipments be accompanied with emergency response information. The Emergency Response Guidebook is updated every four years.

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**Early 49 CFR**

The Early 49 CFR has the same formatted information as the government release Parts 100-185 but includes additional features that make it easier to find information. A Labelmaster exclusive, it features a 4-digit number cross-reference table, an easy-to-read Hazardous Materials Table, a detailed index to easily find regulations, tabbed sections for easy reference, a “How to Use the CFR” section, color displays of hazmat labels and placards, and much more. Printed about six months prior to the release of the government 49 CFR, this early version is imperative for all hazmat shippers, since it provides the most current regulatory updates, helping to keep you in compliance and on the road. Anticipated to ship in late November.

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We’re proud to present nine essential interactive online training courses.

General Awareness
- An introduction to hazardous materials/Dangerous Goods

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Excepted Lithium Battery Shipping
- Lithium battery awareness
- Relevant regulations
- Identifying excepted batteries
- Packing, marking and labeling

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Fully Regulated and Excepted Lithium Battery Shipping
- Lithium batteries and their potential hazards
- Packaging and package selection
- Marking, labeling and documentation
- Safety, emergency response and security awareness

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ADR Ground Shipping
- How the ADR applies in various countries
- Packing items in accordance with the ADR
- Correctly documenting DG shipments
- Safety and security

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Shipping DG by Air (IATA 60th Edition) for Operations Personnel
- How the DGR applies across various countries and airlines
- Correctly documenting DG shipments
- Safety and security

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Shipping DG by Air (IATA 60th Edition) Category 1 Full Shipper Training
- Selection of the proper shipping name and use of the Dangerous Goods List (DGL)
- IATA Packing Instructions and packaging selection
- Package Testing and UN Specification Requirements
- Documentation requirements for air shipments

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49 CFR
- General awareness of hazardous materials
- Proper package selection and use
- How to pack, mark and label items
- How to prepare shipping papers

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Shipping Dangerous Goods by Sea
- Responsibilities of sending dangerous goods by sea
- Documentation according to the IMDG Code
- How the IMDG Code applies in the United States

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Shipping Limited and Excepted Quantities
- Hazardous Materials General Awareness
- The advantages of excepted quantity and limited quantity exceptions
- Understanding the IATA DGR, ADR, 49 CFR, and IMDG Code
- Packing, marking and labeling limited and excepted quantity shipments

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TRAINING FROM THE EXPERTS YOU TRUST.
Labelmaster’s online training courses make training stress-free, because they’re:

- Created by Labelmaster’s own training experts
- Fully compliant and completely updated with the latest regulations and requirements
- Fully interactive, convenient and flexible
- Built by the same company you trust for compliant products, time-saving software and expert services

Learn more at labelmaster.com/training or call us at 800.621.5808.
**CHEMTREC® Lithium Battery Marks—Exclusively From Labelmaster®**

Safely transport your lithium battery packages with Labelmaster's Lithium Battery Marks preprinted with the CHEMTREC emergency contact information. Available as 120mm x 110mm or 105mm x 74mm markings in paper or PVC-free film, these labels are designed in accordance with the regulations. These handling marks have space to designate the UN number of the lithium battery being shipped as well as a telephone number for additional information required by the regulations. Choose personalized labels and we'll imprint your information for you. Also available preprinted with CHEMTREC emergency contact information and UN numbers 3480, 3481, 3090 and 3091. Only companies registered with CHEMTREC are authorized to use those labels. For more information or to register, visit CHEMTREC.com. These marks were required for use as of January 1, 2019.

**Lithium Battery Marks**

Safely transport your lithium battery packages with Labelmaster's Lithium Battery Marks. With the recent changes in lithium battery shipping regulations, as of January 1, 2019, these marks are required on all packages carrying lithium ion or metal batteries. Available as 120mm x 110mm or 105mm x 74mm markings in paper or PVC-free film, these labels are designed in accordance with the regulations. These handling marks have space to designate the UN number of the lithium battery being shipped as well as a telephone number for additional information required by the regulations. The tab version features a 120mm x 110mm marking plus a 20mm tab extension to conveniently add any additional marking requirements to the package. Choose personalized labels and we'll imprint your information for you.

**DOT Lithium Ion Battery Markings**

Help stay in compliance and ensure the safe transport of your lithium ion battery shipments with these DOT Lithium Ion Battery Markings. Effective March 6, 2019, these labels can help meet the DOT PHMSA Interim Final Rule harmonizing the 49 CFR with the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air.

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**BATTERY MARKINGS**

**CHEMTREC® Lithium Battery Marks**

<table>
<thead>
<tr>
<th>Item#</th>
<th>Size (W x H)</th>
<th>Material</th>
<th>Personalize</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>LB435-C</td>
<td>120mm x 110mm</td>
<td>Semi-Gloss Paper</td>
<td>No</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>LB435P-C</td>
<td>120mm x 110mm</td>
<td>PVC-Free Film</td>
<td>Yes</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>LB435C-3090</td>
<td>120mm x 110mm</td>
<td>Semi-Gloss Paper</td>
<td>No</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>LB435C-3091</td>
<td>120mm x 110mm</td>
<td>PVC-Free Film</td>
<td>No</td>
<td>Roll of 500</td>
</tr>
</tbody>
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**Lithium Battery Marks**

<table>
<thead>
<tr>
<th>Item#</th>
<th>Size (W x H)</th>
<th>Material</th>
<th>Personalize</th>
<th>Unit</th>
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</thead>
<tbody>
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<td>LB435</td>
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<tr>
<td>LB735</td>
<td>105mm x 74mm</td>
<td>Semi-Gloss Paper</td>
<td>No</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>SLB435</td>
<td>120mm x 110mm</td>
<td>PVC-Free Film</td>
<td>No</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>SLB735</td>
<td>105mm x 74mm</td>
<td>PVC-Free Film</td>
<td>No</td>
<td>Roll of 500</td>
</tr>
</tbody>
</table>

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**DOT Lithium Ion Battery Markings**

<table>
<thead>
<tr>
<th>Item#</th>
<th>Size (W x H)</th>
<th>Material</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>L384</td>
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<td>Semi-Gloss Paper</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>L384L</td>
<td>6&quot; x 4&quot;</td>
<td>Semi-Gloss Paper</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>SL384</td>
<td>4&quot; x 2&quot;</td>
<td>PVC-Free Film</td>
<td>Roll of 500</td>
</tr>
<tr>
<td>SL384L</td>
<td>6&quot; x 4&quot;</td>
<td>PVC-Free Film</td>
<td>Roll of 500</td>
</tr>
</tbody>
</table>
Some of our best-selling labels and placards are now available in materials to handle extreme conditions.

**Placards for Oily Surfaces**

**YOUR DEGREASING DAYS ARE DONE.**

Stop wasting time cleaning oily surfaces before you apply placards. The adhesive backing on these labels and placards absorbs oil, so it adheres directly to lubricated surfaces—textured or smooth.

![Oily Placards](image)

**Labels for Wet Surfaces**

**DOMINATE THE DAMP.**

In the kinds of wet, damp and cold conditions where other labels might slink off and hide, a high-tack rubber-based adhesive keeps these adhered. They also stay stuck to low- and high-energy substrates and can be applied from 10°F to 150°F. Useful anywhere.

![Wet Placards](image)

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**Puzzle Answers**

**GAME #1: UNSCRAMBLE ME!**

1. MODE
2. SHIPMENT
3. TRAINING
4. PACKAGING
5. COMPLIANCE
6. SUPPLY CHAIN
7. REGULATIONS
8. HAZARD CLASS
9. LITHIUM BATTERIES
10. ICAO TECHNICAL INSTRUCTIONS

**GAME #2: DG CROSSWORD**

- FLAMMABLE LIQUID
- THERMAL MARKS
- MSDS
- IATA LITHIUM
- DOT LABELS
- US DOT

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Learn more about placards and labels for extreme condition on pages 10–11. Don't see what you need? **Give us a call at 800.621.5808 to create a solution for your needs.**