



**DANGEROUS**  
**GOODS®**



## STOCK & CUSTOM PACKAGING SOLUTIONS

Dangerous Goods will take your compliance to the next level with our dedication to quality, outstanding service, and innovative UN-rated and temperature-controlled packaging systems.

[BerlinDangerousGoods.com](http://BerlinDangerousGoods.com) · 1.800.413.8867

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## We Believe Anything Is Possible®

With over 100 years in the packaging industry, more than 2,000 packaging professionals and a global network of suppliers and warehouses, we offer 50,000+ SKUs of plastic, glass, and metal containers, closures, and dispensing systems across all markets for customers just like you.

### Our Business Model

Berlin Packaging is not a distributor. We're not a manufacturer. And we're not a packaging consultancy. Instead, we're all three at the same time. We are best-of-breed amongst manufacturing, distribution, and value-added service providers. We are the world's largest **Hybrid Packaging Supplier®**.



Best Elements of a Manufacturer



Distribution & Logistics



Value-Added Specialty Services

### Specialty Service Divisions

We offer value-added services specialized to best address all your packaging needs.

- Branding Strategy & Design
- Quality Advocacy
- Global Capabilities
- Warehousing & Logistics
- Financing & Consulting
- Sustainability Solutions

### Trademarks and Registered Trademarks of Berlin Packaging

- Anything is Possible®
- Compliance Made Easy®
- Hybrid Packaging Supplier®
- Package More Profit®
- The color **green** trademark. This is listed in our marks as Misc.Design (the color **green**)®

### Other Trademarks and Registered Trademarks

- Baritainer® is a registered trademark of Barrier Plastics, Inc.
- Cubitainer® is a registered trademark of The Hedwin Corp.
- EpiPen® is a registered trademark of Mylan Inc.

- Nalgene® is a registered trademark of Nalge Nunc International Corp.
- Quoral® is a registered trademark of Barrier Plastics, Inc.
- All trademark name representations and listed owners are believed to be accurate, but not guaranteed to be so. If you believe any of this information to be incorrect, please contact our Customer Service group regarding trademark errata.

### Catalog Disclaimer:

While it is our commitment to assist customers with proper container selection, it is the ultimate responsibility of the person offering hazardous materials for transportation to ensure that their packaging unit complies with the appropriate regulations.



# The Dangerous Goods Difference

Experts In The Evolution of Regulatory Compliance

## Time Tested

Dangerous Goods, a division of Berlin Packaging, has been helping companies like yours safely and economically ship UN-rated and temperature-controlled systems for over 70+ years. Our proven approach finds creative ways to minimize your risk and enhance your bottom line through innovative and efficient packaging choices.



## Compliance Experts

Dangerous Goods has over 1,800 products available. All of us at Berlin Dangerous Goods believe in **Compliance Made Easy**<sup>®</sup>. Dangerous Goods will take your compliance to the next level with our dedication to quality, outstanding service, and innovative UN-rated and temperature-controlled packaging systems. Our team of regulatory experts will work with you to be your resource, guiding and navigating the regulatory process. We sell millions of products each year in a wide array of sectors:

- Reagents and Solvents
- Paints and Coating
- University and Government
- Aerospace and Automotive
- Pharmaceuticals
- Agrochemical
- Chemical Distributors
- Biotech and Life Sciences
- Petroleum and Fuels
- Flavor and Fragrance
- Research and Testing Labs
- and More!

## Proven Customer Thrill

Berlin Dangerous Goods has earned a Net Promoter Score (NPS) of 77% from its customers – putting us in the same league as other world-class companies. Learn more about NPS in our *Winning with Customers* white paper at [CustomerThrill.com](http://CustomerThrill.com).

- Promise swift and knowledgeable service
- Provide measurable value
- Design custom packaging
- Offer an extensive selection of products
- Improve your inventory strategy
- Focus on cost-reduction strategies
- Have comprehensive market understanding
- Maximize your purchasing power

## Value-Added Services

We use our packaging products and services to help drive your bottom line. There are three ways to make more money. Our proven approach helps customers improve their net income by increasing sales, decreasing costs, and improving productivity.

### Custom Packaging Design & Testing

- Our team will design, test, manufacture, and certify a solution to meet your exact needs

### Testing & Recertification Management

- Our in-house engineering team will design and test packaging to meet your specific requirements and coordinate with 3rd party testing for final assurance.

### Thermal Testing

- Creating custom temperature-controlled packaging – ambient, refrigerated, or frozen – that meets your exact parameters. Testing packaging to ISTA, ASTM, and customer-supplied standards.

### Assembly & Kitting Services

- Counting, Bagging & Sealing Component Parts & Hardware

### Inspection & “Re-Selection”

- Kit Assembly
- Label Printing, including UPC Labels & Bar Codes
- Label Application & Removal
- Manual Assembly & Packaging
- Re-packaging
- Shrink Wrapping

### Regulatory Compliance Consulting

- Our team of regulatory experts will work with you to be your resource, guiding and navigating the regulatory process.

# DOT-SP 9168

Dangerous Goods' Special Permit Packaging, DOT-SP 9168, can be used to ship Packing Groups I, II, or III materials by all modes of transport. Our DOT-SP 9168 packages are 4GV rated and allow you to use your own inner containers or ours. No hazard labels or placards are required for domestic shipments!



One example of the regulations citing special permit packaging is in IATA section 2.8.4, list of operator variations — FedEx® FX-02.

**FX-02** Except for UN 1230 — Methanol and Excepted Quantities (EQ), substances with a primary or subsidiary risk of Division 6.1 in Packing Group I or II:

- with an origin and destination within the USA including Puerto Rico, will only be accepted if in an approved DOT Special Permit (SP) Packaging;
- will only be accepted for International transport in UN Specification packaging that meet packing group I performance standards.

## What Can You Ship In a DOT-SP 9168 Kit?

Any of the materials below, exceptions noted, in quantities of up to 1 L for liquids and 2.85 kg for solids, without hazard labels or placards. Confused by special permits and the complex regulations for hazardous materials? **We make compliance easy.** Call our trained and experienced packaging consultants for assistance.

Proper Shipping Name	Hazard Class/Division	Packing Group
Flammable liquids	3	I, II, or III
Flammable solids*	4.1	II or III
Pyrophoric materials*	4.2	I
Self heating materials*	4.2	II or III
Dangerous When Wet materials	4.3	I, II, or III
Oxidizers*	5.1	I, II, or III
Organic Peroxides*	5.2	II
Toxic materials*	6.1	I, II, or III
Corrosive materials	8	I, II, or III
Miscellaneous hazardous materials	9	II or III

\* See further restrictions in our DOT Special Permit letter of authorization: [BerlinDangerousGoods.com/DOTSP9168](http://BerlinDangerousGoods.com/DOTSP9168)



Want to use your own inner containers? Page 75 cites 49 CFR §178.601 for acceptable variations.



### 16 oz or Less

- Ships inner containers of 16 oz (500 mL) or less
- **Secondary inner packaging:** slip cover can
- Packages acceptable for ground and air shipments with pressure tested primary container

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty	Convenience Pack Item #	Qty
<b>Kits with Bottles</b>								
4 (120)	Amber Plastic Coated Narrow Mouth Glass	4GV / X 1.2 / S	22-400	Phenolic - F217 / PTFE	HMS-66540	12	HMS-6654M	4
4 (120)	Amber Wide Mouth Glass	4GV / X 1.2 / S	38-400	Phenolic - F217 / PTFE	HMS-66530	12	HMS-6653M	4
8 (240)	Amber Plastic Coated Narrow Mouth Glass	4GV / X 1.2 / S	24-400	Phenolic - F217 / PTFE	HMS-66560	12	HMS-6656M	4
8 (240)	Amber Plastic Coated Wide Mouth Glass	4GV / X 1.2 / S	45-400	Phenolic - F217 / PTFE	HMS-66510	12	HMS-6651M	4
8 (240)	Nalgene® Wide Mouth Lab Bottle	4GV / X 1.2 / S	43mm	Polypropylene - Valve Seal	HMS-66570	12	HMS-6657M	4
<b>Ready for Bottles</b>								
8 (240)	See 49 CFR §178.601(g)(2)	4GV / X 1.2 / S	See 49 CFR §178.601(g)(2)		HMS-66500	12	HMS-6650M	4
8 (240)		4GV / X 1.2 / S			HMS-66520*	12	HMS-6652M*	4
16 (480)		4GV / X 1.9 / S			HMS-66704	100	HMS-66704M	12

\* Absorbent sold separately; see page 69



**2 x 32 oz or Less Tall Paint Can**

- Ships inner containers of 32 oz or less
- **Secondary inner packaging:** slip cover can
- **HMS-68503** - tested with tall paint can
- **HMS-68504** - tested with slip cover can

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Ready for Bottles</b>						
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 6.9 / S		See 49 CFR §178.601(g)(2)	<b>HMS-68503</b>	4
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 6.9 / S		See 49 CFR §178.601(g)(2)	<b>HMS-68504**</b>	4

\* Absorbent sold separately; see page 69

\*\* Tested with vermiculite. Vermiculite sold separately



**32 oz or Less Slip Cover Can**

- Ships inner containers of 32 oz (1 L) or less
- **Secondary inner packaging:** slip cover can
- Ideal for ground shipments
- Equivalent kit for Single Bottle Slip Cover Can Package
- **Design ships 50% more per pallet**

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Old Item #	New Item #	Qty	Old Convenience Pack Item #	New Convenience Pack Item #	Qty
<b>Kits with Bottles</b>										
16 (480)	Amber Plastic Coated Narrow Mouth Glass	4GV / X 3.6 / S	28-400	Phenolic - F217 / PTFE	<b>HMS-66450</b>	<b>HMS-68512</b>	150	<b>HMS-6645M</b>	<b>HMS-68512M</b>	4
16 (480)	Amber Plastic Coated Wide Mouth Glass	4GV / X 3.6 / S	53-400	Phenolic - F217 / PTFE	<b>HMS-66440</b>	<b>HMS-68534</b>	150	<b>HMS-6644M</b>	<b>HMS-68511M</b>	4
32 (960)	Flint Plastic Coated Narrow Mouth Glass	4GV / X 3.6 / S	33-400	Phenolic - F217 / PTFE	<b>HMS-66350</b>	<b>HMS-68521</b>	150	<b>HMS-6635M</b>	<b>HMS-68521M</b>	4
32 (960)	Amber Plastic Coated Narrow Mouth Glass	4GV / X 3.6 / S	33-400	Phenolic - F217 / PTFE	<b>HMS-66420</b>	<b>HMS-68527</b>	150	<b>HMS-6642M</b>	<b>HMS-68529M</b>	4
32 (960)	Amber Plastic Coated Wide Mouth Glass	4GV / X 3.6 / S	53-400	Phenolic - F217 / PTFE	<b>HMS-66430</b>	<b>HMS-65830</b>	150	<b>HMS-6643M</b>	<b>HMS-6853M</b>	4
32 (960)	Flint Plastic Coated Wide Mouth Glass	4GV / X 3.6 / S	70-400	Phenolic - F217 / PTFE	<b>HMS-66490</b>	<b>HMS-68535</b>	150	<b>HMS-6649M</b>	<b>HMS-68535M</b>	4
<b>Ready for Bottles</b>										
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 3.6 / S	See 49 CFR §178.601(g)(2)		<b>HMS-66400</b>	<b>HMS-68523</b>	150	<b>HMS-6640M</b>	<b>HMS-68523M</b>	4
32 (960)		4GV / X 3.6 / S			<b>HMS-66410*</b>	<b>HMS-68525*</b>	150	<b>HMS-6641M*</b>	<b>HMS-68526M*</b>	4

\* Absorbent sold separately; see page 69

**32 oz or Less Tall Paint Can**

- Ships inner containers of 32 oz (1 L) or less
- **Secondary inner packaging:** pressure tested tall paint can
- Recommended for air shipments
- Required for shipping Toxic by Inhalation or Pyrophoric Substances
- **Design ships 50% more per pallet**



Primary Volume Oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Old Item #	New Item #	Qty	Old Convenience Pack Item #	New Convenience Pack Item #	Qty
<b>Kits with Bottles</b>										
16 (480)	Amber Plastic Coated Wide Mouth Glass	4GV / X 3.6 / S	53-400	Phenolic - F217 / PTFE	HMS-66441	HMS-68510	150	HMS-66441M	HMS-6851M	4
32 (960)	Amber Plastic Coated Narrow Mouth Glass	4GV / X 3.6 / S	33-400	Phenolic - F217 / PTFE	HMS-66421	HMS-68528	150	HMS-66421M	HMS-68528M	4
32 (960)	Amber Plastic Coated Wide Mouth Glass	4GV / X 3.6 / S	53-400	Phenolic - F217 / PTFE	HMS-66431	HMS-65831	150	HMS-66431M	HMS-6853M	4
32 (960)	Flint Wide Mouth Glass	4GV / X 3.6 / S	70-400	Phenolic - F217 / PTFE	HMS-66432	HMS-68532	150	HMS-66432M	HMS-68532M	4
<b>Ready for Bottles</b>										
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 3.6 / S	See 49 CFR §178.601(g)(2)	HMS-66340	HMS-68520	150	HMS-6634M	HMS-6852M	4	
32 (960)		4GV / X 3.6 / S		HMS-66390*	HMS-68522*	150	HMS-6639AM*	HMS-68522M*	4	

\* Absorbent sold separately; see page 69

**4 x 32 oz Special Permit Packaging**

- Save on shipping and packaging costs — Re-design ships 50% more per pallet
- Includes absorbent pouches
- **Tested with glass wide mouth bottles**
- **HMS-68500 and HMS-68501 tested with vermiculite**
- **Design ships 50% more per pallet**



Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Old Item #	New Item #	Qty
<b>Ready for Bottles</b>								
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 13.6 / S	See 49 CFR §178.601(g)(2)	Tall Paint Can - Absorbent Pouch	HMS-66200	HMS-68500	4	
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 13.6 / S	See 49 CFR §178.601(g)(2)	Slip Cover Can - Vermiculite	—	HMS-68501*	4	
32 (960)	See 49 CFR §178.601(g)(2)	4GV / X 13.6 / S	See 49 CFR §178.601(g)(2)	Slip Cover Can - Vermiculite	—	HMS-68502*	4	

\* Vermiculite sold separately

# Industry Leading Sustainability Services

We use an expansive suite of services to handle any need:



## Consumer & Market Insights

We track the latest consumer insights, market drivers, and packaging trends to help keep you ahead of your competition.



## Sustainability/Circular Economy Roadmapping

We build comprehensive strategies that identify new opportunities, appropriate sustainability levers, and potential barriers to implementation.



## Lifecycle Analyses (LCA)

We'll help you make informed choices by benchmarking your packaging's environmental impact and providing alternatives that offer reduced greenhouse gas emissions, energy consumption, and water deprivation throughout their entire life cycle – from raw material extraction and conversion to manufacturing.



## Stock Solutions

After analyzing your unique application requirements, we'll source components of all substrate types via our network of more than 1,000 manufacturing partners around the globe.



## Custom Design & Innovation

With experience that could only come from commercializing thousands of custom packages, our Studio One Eleven<sup>®</sup> innovation team can develop fully customized components optimized for sustainability, transportation, utilization, and end-of-life.



## Communication Strategies

Implementing sustainable packaging creates value for your brand, channel partners, and consumers. We'll help you capture and retain that value by assisting you with substantiable and quantifiable sustainability claims.

## Single Bottle 4G Packaging

Dangerous Goods' single bottle 4G packaging can be used to ship packing groups I, II, or III materials. We have a wide variety of secondary options: EPS Foam, Corrugated, Pulp, Tall Paint Cans, Pails, Pressure Bags, and More.



### Single Bottle Pressure Bag Package

- Tested for Packing Groups II and III
- Packages acceptable for ground and air shipments
- **Secondary inner packaging:** 95 kPa pressure bag
- **All packages tested with phenolic closures**

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Ready for Bottles - Assembled</b>						
1 (30)	Glass Vial	This package conforms to 49 CFR §173.4	See 49 CFR §173.4		<b>HMS-61934</b>	10
8 (240)	Glass Wide Mouth	4G / Y 0.5 / S	See 49 CFR §178.601(g)(1)		<b>HMS-61930</b>	10
33 (1000)	Glass Narrow Mouth	Limited Quantity	See 49 CFR §173.156		<b>HMS-61943</b>	12
<b>Ready for Bottles - Unassembled</b>						
8 (240)	Glass Wide Mouth	4G / Y 0.5 / S	See 49 CFR §178.601(g)(1)		<b>HMS-61933</b>	Ea.



Want to use your own inner containers? Page 75 cites 49 CFR §178.601 for acceptable variations.



## Custom Packaging Solutions

Dangerous Goods will take your compliance to the next level with our outstanding service, competitive pricing, and top-quality UN-rated and temperature-controlled packaging.

### With Dangerous Goods, You Get:

- Thousands of UN-rated and temperature-controlled packaging options in stock.
- An industry leader with 70+ years of combined experience with UN-rated and temperature-controlled packaging systems.
- Packaging optimization, repacking, inventory management, and reliable 99+% on-time delivery to optimize efficiencies and reduce operating expenses.
- Management of all aspects of packaging return and reuse, from barcoding to warehousing to pick-up and delivery, through product cleaning and refurbishment.
- Custom packaging designs provided by an on-site packaging engineer.
- Dedicated Quality Service Division that offers proactive consulting services.







**Single Bottle Pouch Package**

- Pressure tested bottle required for shipments by air
- See additional bottles on page 56

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
4 (120)	Flint Glass Bottle	4G / Y 2.8 / S	22-400	Phenolic - F217 / PTFE	HMS-65608	12
4 (120)	Nalgene® Narrow Mouth Lab Bottle	4G / X 1.0 / S	24mm	Polypropylene - Valve Seal	HMS-65115	12
4 (120)	Amber Narrow Mouth Glass	4GV / X 2.9 / S	22-400	Phenolic - F217 / PTFE	HMS-65117	4
4 (120)	Amber Glass Bottle	4GV / X 2.9 / S	28-400	Phenolic - F217 / PTFE	HMS-65150M	4
4 (120)	Flint Glass Bottle	4GV / X 2.9 / S	28-400	Phenolic - F217 / PTFE	HMS-65151M	4
4 (120)	Amber Glass Bottle	4GV / X 2.9 / S	33-400	Phenolic - F217 / PTFE	HMS-65152M	4
4 (120)	Flint Glass Bottle	4GV / X 2.9 / S	33-400	Phenolic - F217 / PTFE	HMS-65153M	4
8 (240)	Amber Narrow Mouth Glass	4G / X 1.0 / S	24-400	Phenolic - F217 / PTFE	HMS-65112	12
8 (240)	Amber Plastic Coated Narrow Mouth Glass	4G / X 1.0 / S	24-400	Phenolic - F217 / PTFE	HMS-65114	12
8 (240)	Flint Wide Mouth Glass	4G / X 1.0 / S	58-400	Phenolic - F217 / PTFE	HMS-65113	12
8 (240)	Nalgene® Wide Mouth Lab Bottle	4GV / X 1.4 / S	43mm	Polypropylene - Valve Seal	HMS-69003	12
16 (480)	Flint Glass Bottle	4G / Y 2.8 / S	28-400	Phenolic - F217 / PTFE	HMS-65609	12
16 (480)	Flint Plastic Coated Narrow Mouth Glass	4GV / X 1.4 / S	28-400	Phenolic - F217 / PTFE	HMS-69009	12
16 (480)	Flint Plastic Coated Wide Mouth Glass	4G / Y 2.8 / S	70-400	Phenolic - F217 / PTFE	HMS-65607	12
16 (480)	Nalgene® Wide Mouth Lab Bottle	4G / Y 2.8 / S	53mm	Polypropylene - Valve Seal	HMS-65604	12
32 (960)	Flint Glass Bottle	4G / Y 2.8 / S	33-400	Phenolic - F217 / PTFE	HMS-65610	12
32 (960)	Flint Plastic Coated Wide Mouth Glass	4G / Y 2.8 / S	70-400	Phenolic - F217 / PTFE	HMS-65600	12
32 (960)	Nalgene® Wide Mouth Lab Bottle	4G / Y 2.8 / S	63mm	Polypropylene - Valve Seal	HMS-65602	12
<b>Ready for Bottles</b>						
4 (120)	See 49 CFR §178.601(g)(1)	4G / X 0.4 / S	See 49 CFR §178.601(g)(1)		HMS-65040	500
8 (240)		4G / X 1.0 / S			HMS-65110	150
8 (240)		4G / X 1.0 / S			HMS-65111	12
16 (480)	See 49 CFR §178.601(g)(2)	4GV / X 1.4 / S	See 49 CFR §178.601(g)(2)		HMS-69001	12
33 (1000)	See 49 CFR §178.601(g)(1)	4G / Y 2.8 / S	See 49 CFR §178.601(g)(1)		HMS-65601	12
33 (1000)	See 49 CFR §178.601(g)(2)	4GV / X 3.1 / S	See 49 CFR §178.601(g)(2)		HMS-65164*	60
					HMS-65164M*	4
84 (2500)	Amber Glass Jug	4G / Y 6.3 / S	38-439	Polypropylene - F422	HMS-65177	45
135 (4000)	See 49 CFR §178.601(g)(2)	4GV / X 8.9 / S	See 49 CFR §178.601(g)(2)		HMS-65163*	28

\* Absorbent pouch and corrugated insert included

**Single Bottle Tall Paint Can Package**

- Tested for Packing Groups I, II, and III
- Paint can meets 95 kPa pressure requirements
- Required for pyrophorics, inhalation hazards, and other materials requiring metal secondary packaging
- Tested with phenolic closures
- Packages acceptable for ground and air shipments
- Ideal for air shipments



Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty	Convenience Pack Item #	Qty
<b>Ready for Bottles</b>								
33 (1000)	Wide Mouth Glass	4GV / X 3.0 / S	See 49 CFR §178.601(g)(2)		HMS-68531	52	HMS-68531M	4
33 (1000)	Wide Mouth Glass	4GV / X 3.0 / S	See 49 CFR §178.601(g)(2)		HMS-68530*	52	HMS-68530M*	4

\* Absorbent sold separately, see page 65

## Single Bottle Packaging

### 4 L with Secondary Packaging

- Tested for Packing Groups I, II, and III
- Includes polypropylene absorbent pouch
- Packages tested with 4 L amber glass jug and phenolic closures
- Pressure tested bottle is required for shipments by air
- HDPE pail acceptable for TIH



Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Lid Type	Secondary Style	Item #	Qty
Ready for Bottles								
135 (4)	See 49 CFR §178.601(g)(1)	4G / X 12.3 / S	See 49 CFR §178.601(g)(1)		Plain Steel Cover	Steel Pail with Lever Locking Ring	HMS-68131	Ea.
135 (4)		4G / X 12.2 / S			Screw Top HDPE Lid	HDPE Screw Top Pail	HMS-66640	Ea.

### Single Bottle EPS Foam Package

- Absorbent sold separately; see page 65
- Bag included with every kit
- Pressure tested bottle is required for shipments by air



Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
Kits with Bottles						
32 (960)	Amber Plastic Coated Narrow Mouth Glass	4G / Y 2.0 / S	33-400	Phenolic - F217 / PTFE	HMS-65260	90
32 (960)	Nalgene® Narrow Mouth Lab Bottle	4G / Y 2.0 / S	38mm	Polypropylene - Valve Seal	HMS-67860	90
135 (4000)	Amber Glass Jug	4G / Y 9.1 / S	38-439	Phenolic - F217 / PTFE	HMS-65510	30
135 (4000)	Amber Plastic Coated Glass Jug	4G / Y 9.1 / S	38-439	Phenolic - F217 / PTFE	HMS-65570	30
135 (4000)	180g HDPE Handled Round	4G / X 8.5 / S	38-439	Polypropylene - F422	HMS-65550	30
Ready for Bottles						
32 (960)	See 49 CFR §178.601(g)(1)	4G / Y 2.0 / S	See 49 CFR §178.601(g)(1)		HMS-65360	90
135 (4000)		4G / Y 9.1 / S			HMS-65500	30
135 (4000)		4G / X 8.5 / S			HMS-65530	30

## Cubitainers®

Our Cubitainers® are low-density flexible polyethylene cube-shaped inserts inside a heavy-duty corrugated outer carton. Easy to ship, handle, and pour, our Cubitainers® are designed to collapse as product is dispensed. The non-glug design assures product flow in a continuous, uninterrupted stream. Available with plastic carry handle.

Stock and custom options available! Slip sheet pricing available.



- Tested for Packaging Groups II and III
- All Cubitainers® are LDPE and include 38-400 lined caps
- Acceptable for ground shipments
- Available in kraft and white
- Dust caps and dispensing taps available
- Slip sheet pricing available for 4L, 10L, and 20L Cubitainers®
- **One case of HMS-63244 Contains 4, 4 L Cubitainers®**



HMS-63244



PLA-03193



HMS-64823D

HMS-63262

Capacity	Color	UN Rating	Outer Dimensions	Item #	Qty	Slip Sheet Item #	Slip Sheet Qty
1L (1qt)	Natural	—	—	PLC-03457	144	—	—
4L (1gal)	White	4G / Y 6.1 / S	6-7/8" x 6-7/8" x 7"	HMS-63245	360	HMS-63245S	504
			7-1/2" x 7-1/2" x 7-1/2"	HMS-63244	Ea.	—	—
5L (1.3gal)	White	4G / Y 8.0 / S	7-1/2" x 7-1/2" x 7-1/2"	HMS-63230	350	—	—
10L (2.7gal)	White	4G / Y 16.5 / S	9-3/4" x 9-3/4" x 10-1/8"	HMS-63252	100	HMS-63252S	225
20L (5gal)	White	4G / Y 32 / S	12" x 12" x 12"	HMS-63253	24	HMS-63253S	128
20L (5gal)	Kraft	4G / Y 32 / S	12" x 12" x 12"	HMS-63255	24	—	—
20L (5gal)	Kraft	4G / Y 32 / S	12" x 12" x 12"	HMS-63262	24	—	—
HDPE Quick Serve Tap for Cubitainers®				PLA-03193	Ea.	—	—
Individually Bagged Quick Serve Tap				25201I	800	—	—
Plastic Dust Cap for Cubitainer®				HMS-64823D	Ea.	—	—

\* Dust cap sold separately. Product has hand holes for easy carrying.

## The Dangerous Goods Difference: Custom carton solutions available

We will work with your team to create custom carton solutions for a wide variety of product categories and markets. We offer:

- Low minimum quantity
- Short lead time
- In-stock options
- Gamma irradiation sterilization to ensure utmost purity
- Handhold and handle options
- Warehousing options



## Molded Pulp

- Tested for Packing Groups I, II, and III
- Fully nestable components help save on storage space and shipping costs
- Performs better than EPS foam during drop tests
- Cost-competitive with EPS foam
- Pressure tested bottle and bag are required for shipments by air
- Recyclable



**Small Single Bottle Package – 1 L or Less**

- 1 L tested with 45 mm glass bottle and closure
- 500 mL bottle tested with 38-439 closure

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty	Convenience Pack Item #	Qty
<b>Kits with Bottles</b>								
17 (500)	Amber Narrow Mouth Glass	4G / X 1.4 / S 4G / Y 1.9 / S	38-439	Phenolic - F217 / PTFE	<b>HMS-65401</b>	238	—	
33 (1000)	Amber Narrow Mouth Glass	4G / X 2.0 / S 4G / Y 2.7 / S	38-439	Phenolic - F217 / PTFE	<b>HMS-65411</b>	144	—	
<b>Ready for Bottles</b>								
17 (500)	See 49 CFR §178.601(g)(1)	4G / X 1.4 / S 4G / Y 1.9 / S	See 49 CFR §178.601(g)(1)		<b>HMS-65405</b>	238	<b>HMS-65405M</b>	6
33 (1000)		4G / X 2.0 / S 4G / Y 2.7 / S			<b>HMS-65445</b>	144	—	
<b>Ready for Bottles - Unassembled</b>								
17 (500)	See 49 CFR §178.601(g)(1)	4G / X 1.4 / S 4G / Y 1.9 / S	See 49 CFR §178.601(g)(1)		<b>HMS-65403</b>	174	—	
33 (1000)		4G / X 2.0 / S 4G / Y 2.7 / S			<b>HMS-65413</b>	96	<b>HMS-65413M</b>	20



**Large Single Bottle Package – 1 Gallon, 2.5 L and 4 L**

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty	Convenience Pack Item #	Qty
<b>Kits with Bottles</b>								
84 (2.5)	Amber Glass Jug	4G / X 6.1 / S 4G / Y 8.4 / S	38-439	Phenolic - F217 / PTFE	<b>HMS-65521</b>	45	—	—
135 (4)	Amber Glass Jug	4G / X 7.1 / S 4G / Y 9.7 / S	38-439	Phenolic - F217 / PTFE	<b>HMS-65471</b>	50	—	—
<b>Ready for Bottles</b>								
84 (2.5)	See 49 CFR §178.601(g)(1)	4G / X 6.1 / S 4G / Y 8.4 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-65520</b>	45	—	—
135 (4)		4G / X 7.1 / S 4G / Y 9.7 / S	See 49 CFR §178.601(g)(1)	<b>HMS-65472</b>	50	—	—	
<b>Ready for Bottles - Unassembled</b>								
84 (2.5)	See 49 CFR §178.601(g)(1)	4G / X 6.1 / S 4G / Y 8.4 / S	See 49 CFR §178.601(g)(1)		<b>HMS-65523</b>	45	<b>HMS-65523M</b>	4
135 (4)		4G / X 7.1 / S 4G / Y 9.7 / S			<b>HMS-65473</b>	180	—	—
128 (3.8)		4G / Y 6.6 / S			<b>HMS-65475</b>	360	—	—



Want to use your own inner containers? Page 75 cites 49 CFR §178.601 for acceptable variations.



2-Pack Multiple Bottle Package

- Tested with phenolic and tamper-evident polypropylene closures



Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
Ready for Bottles - Unassembled						
17 (500)	Narrow Mouth Glass	4G / X 2.8 / S 4G / Y 3.8 / S	See 49 CFR §178.601(g)(1)		HMS-64349	Ea.
33 (1000)	Narrow Mouth Glass	4G / X 3.9 / S 4G / Y 5.4 / S			HMS-61694*	Ea.
33 (1000)	Narrow Mouth Glass	4G / X 3.9 / S 4G / Y 5.4 / S			HMS-61696	Ea.
135 (4000)	Narrow Mouth Glass Jug	4G / X 14.2 / S 4G / Y 19.2 / S			HMS-65516	Ea.

\*Includes absorbent pad

4-Pack Multiple Bottle Package

- 4 L bottles tested with polypropylene and tamper-evident closures
- 2.5 L bottle tested with polypropylene closures
- 4x4 L kits are not tested with phenolic closures



Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
Kits with Bottles						
84 (2.5)	Amber Glass Narrow Mouth Bottle, 1350g	4G / X 23.3 / S 4G / Y 31.2 / S	45mm	See 49 CFR §178.601(g)(1)	HMS-61431	45
135 (4)	Amber Glass Jug, 1750g	4G / Y 31.5 / S 4G / Z 41.9 / S	38-439		HMS-64928	45
135 (4)	Amber Glass Jug, 1410g	4G / Y 27.7 / S 4G / Z 37.7 / S	38-439		HMS-64930	45
135 (4)	Amber Plastic Coated Glass Jug, 1410g	4G / Y 27.7 / S 4G / Z 37.7 / S	38-439		HMS-64933	45
Ready for Bottles						
135 (4)	See 49 CFR §178.601(g)(1)	4G / Y 27.7 / S 4G / Z 37.7 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	HMS-64922	45

## Molded Pulp Packaging

### Multiple Bottle Package - 1 L or Less

- Tested for Packing Groups I, II, and III
- HMS-64874 tested with 1 L narrow mouth glass and HDPE
- 500mL kits tested with Phenolic and Polypropylene Closures
- 1L kits tested with Phenolic and Polypropylene Closures



HMS-65484



HMS-64874

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Number Of Bottles	Item #	Qty
<b>Kits with Bottles</b>							
17 (500)	Flint Narrow Mouth Glass	4G / X 7.8 / S 4G / Y 9.6 / S	38-439	Phenolic - F217 / PTFE	6	HMS-65492	64
17 (500)	Amber Narrow Mouth Glass	4G / X 7.8 / S 4G / Y 9.6 / S	38-439	See 49 CFR §178.601(g)(1)	6	HMS-65491	64
33 (1000)	Amber Narrow Mouth Glass	4G / X 13.5 / S 4G / Y 17.5 / S	38-439	See 49 CFR §178.601(g)(1)	6	HMS-65484	30
33 (1000)	Amber Plastic Coated Narrow Mouth Glass	4G / X 13.5 / S 4G / Y 17.5 / S	38-439	See 49 CFR §178.601(g)(1)	6	HMS-64221	30
<b>Ready for Bottles</b>							
17 (500)	See 49 CFR §178.601(g)(1)	4G / X 7.8 / S 4G / Y 9.6 / S	See 49 CFR §178.601(g)(1)		6	HMS-65493	64
33 (1000)		4G / X 13.5 / S 4G / Y 17.5 / S			6	HMS-65481	42
<b>Ready for Bottles - Unassembled</b>							
17 (500)	See 49 CFR §178.601(g)(1)	4G / X 7.8 / S 4G / Y 9.6 / S	See 49 CFR §178.601(g)(1)		6	HMS-65490	Ea.
33 (1000)		4G / X 13.5 / S 4G / Y 17.5 / S			6	HMS-65484U	Ea.
33 (1000)		4G / Y 27.4 / S			12	HMS-64874	Ea.

### Honeycomb Package

- Pressure tested bottle and bag are required for shipments by air
- Unless noted, tested with polypropylene tamper-evident closures



HMS-65427



HMS-68670



HMS-61853

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Number Of Bottles	Item #	Qty
<b>Ready for Bottles</b>							
33 (1)	See 49 CFR §178.601(g)(2)	4CV / X 9.9 / S	45mm	See 49 CFR §178.601(g)(2)	6	HMS-68670*	30
<b>Ready for Bottles - Unassembled</b>							
128 (3.8) 135 (4)	Amber Glass Jug	4G / Y 28.8 / S	38-400 38-439	Phenolic - Polycone Polypropylene - F422	4	HMS-61853	Ea.

\* Includes absorbent

**4-Bottle EPS Package – 16-32 oz**

- Absorbent and bag included with each package
- Packages acceptable for ground and air shipments
- Shipped in quantities of 4 or 48

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #
<b>Kits with Bottles</b>					
16 (480)	Amber Narrow Mouth Glass	4G / Y 5.9 / S	28-400	Phenolic - F217 / PTFE	HMS-64451
16 (480)	Amber Wide Mouth Glass	4G / Y 5.9 / S	53-400	Phenolic - F217 / PTFE	HMS-64453
16 (480)	Flint Plastic Coated Narrow Mouth Glass	4G / Y 5.9 / S	28-400	Phenolic - F217 / PTFE	HMS-64410
16 (480)	Amber Plastic Coated Narrow Mouth Glass	4G / Y 5.9 / S	28-400	Phenolic - F217 / PTFE	HMS-64450
32 (960)	Amber Narrow Mouth Glass	4G / Y 11.1 / S	33-400	Phenolic - F217 / PTFE	HMS-64421
32 (960)	Amber Plastic Coated Narrow Mouth Glass	4G / Y 11.1 / S	33-400	Phenolic - F217 / PTFE	HMS-64420
32 (960)	Flint Plastic Coated Narrow Mouth Glass	4G / Y 11.1 / S	33-400	Phenolic - F217 / PTFE	HMS-64570
32 (960)	Amber Plastic Coated Wide Mouth Glass	4G / Y 11.1 / S	53-400	Phenolic - F217 / PTFE	HMS-64430
32 (960)	Flint Plastic Coated Wide Mouth Glass	4G / Y 11.1 / S	70-400	Phenolic - F217 / PTFE	HMS-64460
32 (960)	Nalgene® Wide Mouth Lab Bottle	4G / Y 11.1 / S	63mm	Polypropylene - Valve Seal	HMS-67670
<b>Ready for Bottles</b>					
16 (480)	Narrow or Wide Mouth Bottle	4G / Y 5.9 / S	See 49 CFR §178.601(g)(1)		HMS-64640
32 (960)	Narrow Mouth Bottle	4G / Y 11.1 / S			HMS-64660
32 (960)	Wide Mouth Bottle	4G / Y 11.1 / S			HMS-64670



**Trying to squeeze square bottles into round holes? We can help!**

With our on-site packaging engineer and team of experts, we can create EPS foam solutions to fulfill your custom packaging needs. We can help you navigate the regulations to ensure that your packaging is within the volume limits allowable.

## Multiple Bottle Packaging



HMS-67600



HMS-64530

### 4-Bottle EPS Package: 4 oz

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
4 (120)	Amber Plastic Coated Narrow Mouth Glass	4G / X 1.9 / S	22-400	Phenolic - F217 / PTFE	<b>HMS-64540</b>	50
4 (120)	Nalgene® Narrow Mouth Lab Bottle	4G / X 1.9 / S	24mm	Polypropylene - Valve Seal	<b>HMS-67600</b>	50
4 (120)	Amber Plastic Coated Wide Mouth Glass	4G / X 1.9 / S	38-400	Phenolic - F217 / PTFE	<b>HMS-64530</b>	50
<b>Ready for Bottles</b>						
4 (120)	See 49 CFR §178.601(g)(1)	4G / X 1.9 / S	See 49 CFR §178.601(g)(1)		<b>HMS-64600</b>	50



HMS-64560



HMS-64510

### 4-Bottle EPS Package: 8 oz

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
8 (240)	Amber Plastic Coated Narrow Mouth Glass	4G / Y 3.0 / S	24-400	Phenolic - F217 / PTFE	<b>HMS-64560</b>	50
8 (240)	Nalgene® Wide Mouth Lab Bottle	4G / Y 3.0 / S	43mm	Polypropylene - Valve Seal	<b>HMS-6763M</b>	4
8 (240)	Amber Plastic Coated Wide Mouth Glass	4G / Y 3.0 / S	45-400	Phenolic - F217 / PTFE	<b>HMS-64510</b>	50
<b>Ready for Bottles</b>						
8 (240)	Narrow Mouth Bottles	4G / Y 3.0 / S	See 49 CFR §178.601(g)(1)		<b>HMS-64620</b>	50
8 (240)	Wide Mouth Bottles	4G / Y 3.0 / S			<b>HMS-64630</b>	50

### 6-Bottle EPS Package

- Tested with wide mouth and narrow mouth glass and plastic bottles with phenolic and polypropylene closures



HMS-68140

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Ready for Bottles</b>						
4 (120)	See 49 CFR §178.601(g)(1)	4G / X 3.0 / S	38mm	See 49 CFR §178.601(g)(1)	<b>HMS-68140</b>	72
4 (120)		4G / X 3.0 / S	38mm		<b>HMS-68142*</b>	72

\* Absorbent and bag included



**6-Bottle 500 ml EPS Package**

- Shipped with acid fitments and dust covers
- Pressure tested bottle and bag are required for shipments by air\*



HMS-62070

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
17 (500)	Flint Narrow Mouth Glass	4G / X 8.4 / S	38-439	See 49 CFR §178.601(g)(1)	HMS-62000	56
17 (500)	Flint Plastic Coated Narrow Mouth Glass	4G / X 8.4 / S	38-439		HMS-62060	56
17 (500)	Amber Narrow Mouth Glass	4G / X 8.4 / S	38-439		HMS-62070	56
<b>Ready for Bottles</b>						
17 (500)	See 49 CFR §178.601(g)(1)	4G / X 8.4 / S		See 49 CFR §178.601(g)(1)	HMS-62030	56

\* See page 56 for bottle options

\* See page 71 for bag options

Want to use your own inner containers? Page 75 cites 49 CFR §178.601 for acceptable variations.

**6-Bottle 1 L EPS Package**

- Absorbent and bag included
- Acceptable for wide mouth glass and narrow mouth and wide mouth HDPE



HMS-64700: Wide Mouth Glass Bottles



HMS-64700: Narrow Mouth HDPE Bottles

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Ready for Bottles</b>						
33 (1)	See 49 CFR §178.601(g)(1)	4G / Y 14.1 / S		See 49 CFR §178.601(g)(1)	HMS-64700	27

**6-Bottle 2.5 L EPS Package**

- For use with amber or flint glass jugs
- Tested with polypropylene and tamper-evident closures



HMS-64851

**Shipping Narrow Mouth Glass?**

See page 12 for molded pulp options.

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
84 (2.5)	Flint Glass Jug	4G / X 29.4 / S 4G / Y 38.6 / S	38-439	See 49 CFR §178.601(g)(1)	HMS-64851	35
84 (2.5)	Flint Plastic Coated Glass Jug	4G / X 29.4 / S 4G / Y 38.6 / S	38-439		HMS-64858	35
<b>Ready for Bottles</b>						
84 (2.5)	See 49 CFR §178.601(g)(1)	4G / X 29.4 / S 4G / Y 38.6 / S		See 49 CFR §178.601(g)(1)	HMS-64857	35

\* For amber bottles, see page 57

## Multiple Bottle Packaging

### 4-Bottle EPS Heavy Weight Package: Handled Jug

- Tested to a specific gravity of 1.5
- **New heavy weight product**



Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
<b>Ready for Bottles</b>							
135 (4)	Amber Plastic Coated Glass	4G / X 33.4 / S	38-439	Polypropylene - F422	EPS Foam Base with Molded Pulp Top and Honeycomb Pads	<b>HMS-64828C</b>	15

### 4-Bottle EPS Package: Handled Jug

- Tested for Packing Groups I, II, and III
- Shipped with acid fitments and dust covers
- **Tested with phenolic and polypropylene closures**



Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
84 (2.5)	Flint Glass Jug, 1035g	4G / X 25.4 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-64840</b>	15
84 (2.5)	Flint Plastic Coated Glass Jug, 1035g	4G / X 25.4 / S	38-439		<b>HMS-64845</b>	15
84 (2.5)	Amber Glass Jug, 1035g	4G / X 25.4 / S	38-439		<b>HMS-64844</b>	15
84 (2.5)	Amber Plastic Coated Glass Jug, 1035g	4G / X 25.4 / S	38-439	Phenolic - F217 / PTFE	<b>HMS-64847</b>	15
135 (4)	Amber Glass Jug, 1410g	4G / X 27 / S 4G / Y 37.2 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-64891</b>	15
135 (4)	Amber Plastic Coated Glass Jug, 1410g	4G / X 27 / S 4G / Y 37.2 / S	38-439		<b>HMS-64894</b>	15
135 (4)	Amber Glass Jug, 1750g	4G / X 27 / S 4G / Y 37.2 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-64890</b>	15
135 (4)	Amber Glass Jug, 1410g	4G / X 27 / S 4G / Y 37.2 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-64891</b>	15
135 (4)	Amber Plastic Coated Glass Jug, 1750g	4G / X 29.5 / S 4G / Y 39.9 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-64892</b>	15
<b>Ready for Bottles</b>						
84 (2.5)	See 49 CFR §178.601(g)(1)	4G / X 25.4 / S	See 49 CFR §178.601(g)(1)		<b>HMS-64810</b>	15
135 (4)		4G / X 29.5 / S 4G / Y 39.9 / S	38-439	See 49 CFR §178.601(g)(1)	<b>HMS-64893</b>	15
135 (4)		4G / X 29.5 / S 4G / Y 39.9 / S	See 49 CFR §178.601(g)(1)		<b>HMS-64893</b>	15
135 (4)		180g HDPE Handled Round	4G / X 27 / S 4G / Y 37.2 / S	See 49 CFR §178.601(g)(1)		<b>HMS-64838</b>

We use our buying power to pass along significant savings to our customers.



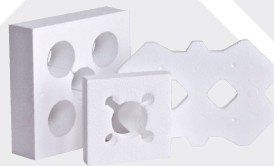
**Molded Pulp**  
This material can be formed into many versatile shapes.



**Honeycomb**  
Compressed kraft paper composed of a series of continuous hexagonal cells.



**Corrugate**  
Also called fiberboard; made from a fluted sheet of paper and one or two liners of corrugate.



**EPS Foam**  
A closed-cell, lightweight, rigid foam plastic, typically molded.

We provide turnkey design, testing, certification, manufacturing, and warehousing services.

	Molded Pulp	Honeycomb	Corrugate	EPS Foam
	Recyclable; can be shipped nested, saving space; highest compression strength	Recyclable, dampens vibration better than EPS and corrugate, lower tooling costs than EPS	Recyclable, can be shipped / stored flat, saving space; different board grades available for protection needs	Lightweight, inexpensive, offers thermal protection, resistant to humidity
	Requires inexpensive molds for new designs	May not be as readily available as corrugate or EPS	Thinner corrugate doesn't provide ideal cushioning for heavier inner packaging	Bulky, requiring more storage space; expensive tooling; banned in some areas; not biodegradable

### Success Stories

Berlin Dangerous Goods' mission is to help you become more efficient, effective, and profitable. Dangerous Goods will take your compliance to the next level with our outstanding service, competitive pricing, and top-quality UN-rated and temperature-controlled packaging.

**Opportunity:** a Multinational biochemical and reagent manufacturer was shipping thousands of vermiculite-based packages internationally.

**Challenges:**

- Long, costly pack-out times for existing packaging
- Heavy packaging components increased freight cost
- Customer dissatisfaction with product packed in existing packages

**Solution:**

**We reduced their costs by over \$5 million per year through:**

- Creating a custom package that all but eliminated pack-out errors and reduced pack-out time by 85%!
- Changing packaging components to cleaner and lighter materials, pleasing their customers and saving on freight costs, while maintaining package integrity and conformance

**Ready to take the next step?**

Our dedicated team is well-trained to assist you with even your most challenging needs. Call 1.800.413.8867 or visit BerlinDangerousGoods.com.

## Nitric Acid Packaging

On June 2, 2016, PHMSA adopted a revision for §173.158(e) for nitric acid in concentrations less than 90%. The modification requires that when nitric acid is placed in wooden or fiberboard outer packagings, the glass inner packagings must be packed in tightly closed, non-reactive intermediate packagings, cushioned with a non-reactive absorbent material. The use of a flexible intermediate packaging is authorized, provided it can be tightly closed and is non-reactive to the nitric acid.

To ensure compliance, Berlin Dangerous Goods wrote a letter of interpretation on February 1, 2017. We received a response that there must be enough absorbent to contain the entire contents of the package. We were able to modify our existing designs and create new compliant packaging quickly so that our customers could avoid product and revenue loss.



HMS-65178

### Single Bottle Nitric Pouch Package

- Tested with 2.5 L glass jug and polypropylene closure
- Includes non-reactive absorbent pouch and cable tie

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
4 (120)	Flint Glass Bottle	4G / Y 2.8 / S	22-400	Phenolic - F217 / PTFE	HMS-65608	12
16 (480)	Flint Glass Bottle	4G / Y 2.8 / S	28-400	Phenolic - F217 / PTFE	HMS-65609	12
32 (960)	Flint Glass Bottle	4G / Y 2.8 / S	33-400	Phenolic - F217 / PTFE	HMS-65610	12
84 (2.5)	Flint Glass Jug	4G / Y 6.3 / S	38-439	See 49 CFR §178.601(g)(1)	HMS-65178	45
84 (2.5)	Flint Plastic Coated Glass Jug	4G / Y 6.3 / S	38-439		HMS-65179	45
<b>Ready for Bottles</b>						
84 (2.5)	See 49 CFR §178.601(g)(1)	4G / Y 6.3 / S		See 49 CFR §178.601(g)(1)	HMS-65177	45



HMS-61363

### 6-Bottle 500 ml Nitric EPS with Absorbent Package

- Tested with polypropylene closures
- Includes non-reactive absorbent sheets, bag, and cable tie

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
17 (500)	Flint Narrow Mouth Glass	4G / X 8.7 / S	38-439	See 49 CFR §178.601(g)(1)	HMS-61363	48
17 (500)	Flint Plastic Coated Narrow Mouth Glass	4G / X 8.7 / S	38-439		HMS-61364	48
<b>Ready for Bottles</b>						
17 (500)	See 49 CFR §178.601(g)(1)	4G / X 8.7 / S		See 49 CFR §178.601(g)(1)	HMS-61365	48

4-Bottle 2.5 L Nitric EPS Package

- Tested with polypropylene closures, 2" 3M #375 tape, and ½" plastic strapping
- No absorbent required §173.158(B)(2)



HMS-64801

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
84 (2.5)	Flint Glass Jug	4H1 / Y 20.2 / S	38-439	See 49 CFR §178.601(g)(1)	HMS-64801	15
84 (2.5)	Flint Plastic Coated Glass Jug	4H1 / Y 20.2 / S	38-439		HMS-64802	15
<b>Ready for Bottles</b>						
84 (2.5)	See 49 CFR §178.601(g)(1)	4H1 / Y 20.2 / S	See 49 CFR §178.601(g)(1)		HMS-64800	15

6-Bottle 2.5 L Nitric EPS with Absorbent Package

- Tested with polypropylene and tamper-evident closure
- Includes non-reactive absorbent sheets, bag, and cable tie



HMS-64867

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Kits with Bottles</b>						
84 (2.5)	Flint Glass Jug	4G / Y 30.7 / S	38-439	See 49 CFR §178.601(g)(1)	HMS-64867	14
84 (2.5)	Flint Plastic Coated Glass Jug	4G / Y 30.7 / S	38-439		HMS-64868	14
<b>Ready for Bottles</b>						
84 (2.5)	See 49 CFR §178.601(g)(1)	4G / Y 31.2 / S	See 49 CFR §178.601(g)(1)		HMS-64866	14

Nitric Acid Accessories

Description	Material	Item #
<b>Accessories</b>		
19 ¾" x 13 ½" Polypropylene Absorbent Sheet	Polypropylene	HMS-81170
Poly Bag for 6 x 2.5 L Packaging	LDPE	HMS-81063
Polypropylene Cable Tie	Polypropylene	HMS-81332

Not Shipping Nitric Acid?

See page 15 for packaging without absorbent



Nitric Acid Bottles



302348

Capacity oz (L)	Color	UN Rating	Neck Finish	Dust Cover or Closure	Item #	Minimum Order
87 (2.6) 6x1	PPQ Resin White (Natural)	4G / Y 30.6 / S	38-439	Dust Cover	302348	684 Bottles (1 Pallet)
87 (2.6) Bulk	PPQ Resin White (Natural)	—	38-439	Dust Cover	302398	384 Bottles (1 Pallet)
87 (2.6) 6x1	PPQ Resin White (Natural)	4G / Y 30.6 / S	45mm	Dust Cover	302445	684 Bottles (1 Pallet)
87 (2.6) Bulk	PPQ Resin White (Natural)	—	45mm	Dust Cover	302400	384 Bottles (1 Pallet)

## Variation Packaging

Tested to a higher standard, Variation Packaging (4GV), allows greater flexibility for using customer supplied primary containers. Dangerous Goods has a wide variety of packaging, including: pouches, cans, and loose fill absorbent.



HMS-69001

### Small Bottle 4GV Package

- Tested with wide mouth glass bottle and phenolic closure

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
Ready for Bottles							
16 (480)	See 49 CFR §178.601(g)(2)	4GV / X 1.4 / S		See 49 CFR §178.601(g)(2)	Absorbent Pouch	HMS-69001	12

\* See page 7 for additional options



HMS-66010



HMS-65164

### 1 L 4GV Package

- All packages tested with phenolic closures

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
Ready for Bottles							
32 (960)	Wide Mouth Glass	4GV / X 2.5 / S		See 49 CFR §178.601(g)(2)	Slip Cover Can	HMS-66010	12
32 (960)	Wide Mouth Glass	4GV / X 2.5 / S			Slip Cover Can	HMS-6600M	12
33 (1000)	Narrow Mouth Glass	4GV / X 3.1 / S			Absorbent Pouch and Corrugated Insert	HMS-65164	60

\* See pages 7 and 8 for additional options



## Looking For Special Permit Packaging?

This type of packaging system is required by UPS and FedEx® for shipments of certain hazardous materials. See pages 4 and 5 for more details.



HMS-65163

**4 L 4GV Package**

- Tested with 4 L narrow mouth jug and phenolic closure

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
Ready for Bottles							
135 (4)	See 49 CFR §178.601(g)(2)	4GV / X 8.9 / S		See 49 CFR §178.601(g)(2)	Absorbent Pouch and Corrugated Insert	HMS-65163	28

\* See page 8 for additional options



HMS-68670

HMS-62195

**Multiple Bottle 4GV Package**

- HMS-62915 tested with 1 L glass bottle and 45mm polypropylene closure
- HMS-68670 Tested with polypropylene tamper-evident closures

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
Ready for Bottles							
33 (1)	See 49 CFR §178.601(g)(2)	4GV / X 11.0 / S		See 49 CFR §178.601(g)(2)	Absorbent Pouch and Corrugated Insert	HMS-62195	18
33 (1)	See 49 CFR §178.601(g)(2)	4GV / X 9.9 / S	45mm	See 49 CFR §178.601(g)(2)	Honeycomb Inserts	HMS-68670*	30

\* Includes absorbent

Want to use your own inner containers? Page 75 cites 49 CFR §178.601 for acceptable variations.



HMS-65180

HMS-65184

HMS-65188

**4GV, Variation 2 Cartons for Loose Fill Cushioning**

- Tested with 1 L glass wide mouth bottles

Primary Volume oz (L)	Inner Dimensions	Primary Container	UN Rating	Neck Finish	Closure/Liner	Numbers of Bottles	Item #	Qty
Ready for Bottles								
33 (1)	9 ½" x 9 ½" x 11 ⅞"	See 49 CFR §178.601(g)(2)	4GV / X 8.5 / S	See 49 CFR §178.601(g)(2)		2	HMS-65180	Ea.
33 (1)	12 ¼" x 12 ¼" x 12 ¼"		4GV / X 16.3 / S			4	HMS-65184	Ea.
33 (1)	20" x 15" x 14"		4GV / X 31.0 / S			8	HMS-65188	Ea.

## Metals and Industrial Packaging

Ideal for paints, coatings, and petroleum products, our metal packaging is cost-effective and designed to meet UN and Limited Quantity requirements. We also have a wide variety of industrial packaging for metal and plastic F-styles, handled jugs, and other containers.



### EPS Gallon Paint Can Shipping Package

- Tested for Packing Groups II and III
- Pressure rings ensure cans meet 95 kPa requirements
- Available in 1-, 2-, and 4-can configurations
- Packages acceptable for ground and air shipments



Primary Volume oz (Gal)	Primary Container	UN Rating	Lid Type	Fitments	Number of Cans	Item #	Qty	Convenience Pack Item #	Qty
<b>Kits with Cans</b>									
128 (l)	Unlined Tin Plated Steel	4G / Y 9.0 / S	Paint Can Plug	Overcap Ring	1	HMS-67010	76	HMS-6768M	4
	Epoxy Lined Tin Plated Steel					HMS-67690	76	HMS-6769M	4
128 (l)	Unlined Tin Plated Steel	4G / Y 17.9 / S	Paint Can Plug	Overcap Ring	2	HMS-67020	40	—	—
	Epoxy Lined Tin Plated Steel					HMS-67710	40	—	—
128 (l)	Unlined Tin Plated Steel	4G / Y 35.3 / S	Paint Can Plug	Overcap Ring	4	HMS-67030	40	—	—
	Epoxy Lined Tin Plated Steel					HMS-67031	40	—	—
<b>Ready for Cans - Assembled</b>									
128 (l)	See 49 CFR §178.601(g)(l)	4G / Y 9.0 / S	Paint Can Plug	Overcap Ring	1	HMS-67070	76	—	—
128 (l)		4G / Y 17.9 / S	Paint Can Plug	Overcap Ring	2	HMS-67080	40	—	—
128 (l)		4G / Y 35.3 / S	Paint Can Plug	Overcap Ring	4	HMS-67090	40	—	—
<b>Ready for Cans - Unassembled</b>									
128 (l)	See 49 CFR §178.601(g)(l)	4G / Y 9.0 / S	Paint Can Plug	Overcap Ring	1	HMS-67040	Ea.	—	—
128 (l)		4G / Y 17.9 / S	Paint Can Plug	Overcap Ring	2	HMS-67050	Ea.	—	—
128 (l)		4G / Y 35.3 / S	Paint Can Plug	Overcap Ring	4	HMS-67060	Ea.	—	—

### Paint Cans with Lids



Capacity	Lid Type	Inner Dimensions	Item #	Qty
<b>Unlined Paint Cans with Lids</b>				
4oz (1/4pt)	Paint Can Plug	208 x 200	MET-03084	700
8oz (1/2pt)	Paint Can Plug	214 x 214	MET-03087	340
16oz (1pt)	Paint Can Plug	307 x 314	MET-03089	52
32oz (1qt)	Paint Can Plug	404 x 414	MET-03093	56
128oz (1gal)	Paint Can Plug	610 x 708	MET-03098	46
<b>Epoxy Lined Paint Cans with Lids</b>				
16oz (1pt)	Paint Can Plug	307 x 314	MET-03091	52
32oz (1qt)	Paint Can Plug	404 x 414	MET-03095	56
128oz (1gal)	Paint Can Plug	610 x 708	MET-03100	46

### Plastic Overcap Rings

- Sturdier than speed clips
- Ensure paint cans meet the 95 kPa pressure requirement for air shipments



Primary Volume	Item #	Qty
<b>Armlock</b>		
16oz (1pt)	HMS-1082U	Ea.
32oz (1qt)	HMS-1082T	Ea.
128oz (1gal)	HMS-1082A	Ea.

### Heavy Duty Anodized Gold Lid Off

- Opens tightly sealed plastic pails quickly and easily
- Lid-Off is 1 1/2" wide to provide optimum rim grip

Item #	Qty
MET-08918	Ea.





## All-Corrugate Metal Packaging

- Tested for packing groups II and III, and limited quantities
- Environmentally-friendly, cost-effective alternative to EPS foam
- Available assembled with inner containers, assembled without inner containers, or unassembled to reduce storage space
- Packages acceptable for ground and air shipments
- Comes with bag, overcap rings and ties. Absorbent sold separately; see page 65
- See page 22 for inner containers



### Single Paint Can Shipping Package

- Includes bags, ties, and overcap rings

Primary Volume	Primary Container	UN Rating	Lid Type	Fitments	Item #	Qty
<b>Kits with Cans</b>						
32oz (1qt)	Unlined Tin Plated Steel	4G / Y 2.3 / S	Paint Can Plug	Overcap Ring	HMS-66980	12
	Epoxy Lined Tin Plated Steel				HMS-66981	12
<b>Ready for Cans - Assembled</b>						
32oz (1qt)	See 49 CFR §178.601(g)(1)	4G / Y 2.3 / S	Paint Can Plug	Overcap Ring	HMS-6722A	12
<b>Ready for Cans - Unassembled</b>						
32oz (1qt)	See 49 CFR §178.601(g)(1)	4G / Y 2.3 / S	Paint Can Plug	Overcap Ring	HMS-68590	Ea.
128oz (1gal)		4G / Y 6.4 / S			HMS-67123	Ea.



### 2-Paint Can Shipping Package

- Includes bags, ties, and overcap rings
- For use with lined and unlined tin plated steel cans

Primary Volume	Primary Container	UN Rating	Secondary Style	Item #	Qty
<b>Ready for Cans - Unassembled</b>					
128oz (1gal)	See 49 CFR §178.601(g)(1)	4G / Y 13.8 / S	Corrugated Insert	HMS-67127	Ea.

## Metal Combination Packaging



### 4-Paint Can Shipping Package

- Includes bags, ties, and overcap rings

Primary Volume	Primary Container	UN Rating	Secondary Style	Item #	Qty
<b>Kits with Cans</b>					
32oz (1qt)	Unlined Tin Plated Steel	4G / Y 9.8 / S	Corrugated Insert	<b>HMS-67132</b>	60
<b>Ready for Cans - Assembled</b>					
32oz (1qt)	See 49 CFR §178.601(g)(1)	4G / Y 9.8 / S	Corrugated Insert	<b>HMS-67133</b>	60
<b>Ready for Cans - Unassembled</b>					
32oz (1qt)	See 49 CFR §178.601(g)(1)	4G / Y 9.8 / S	Corrugated Insert	<b>HMS-67111</b>	Ea.
128oz (1gal)	See 49 CFR §178.601(g)(1)	4G / Y 24.6 / S	Corrugated Insert	<b>HMS-67131</b>	Ea.



### Metal F-Style Cans

Capacity	Neck Finish	Description	Dimensions	Lid Style	Item #	Qty
16oz (1pt)	1 1/4"	Unlined Tin Plated Steel Can, Without Handle	112 x 314 x 514	Alpha Solvseal Lined Cap and Inner Seal	<b>MET-03040</b>	24
32oz (1qt)	1 1/4"	Unlined Tin Plated Steel Can, Without Handle	206 x 410 x 614	Alpha Solvseal Lined Cap and Inner Seal	<b>MET-03043</b>	24
128oz (1gal)	1 3/4"	Unlined Tin Plated Steel Can, With Handle	402 x 610 x 907	Alpha Solvseal Lined Cap and Inner Seal	<b>280593</b>	6

### F-Style Can Shipping Package

- Tested with screw thread cans
- Tested with 1 gal F-style can with 1 3/4 opening



HMS-67104



HMS-67103



HMS-67106

Primary Volume	Primary Container	UN Rating	Number Of Cans	Secondary Style	Item #	Qty
<b>Ready for Cans - Unassembled</b>						
128oz (1gal)	See 49 CFR §178.601(g)(1)	4G / Y 6.6 / S	1	Corrugated Insert	<b>HMS-67104</b>	Ea.
128oz (1gal)		4G / Y 13.1 / S	2	Corrugated Insert	<b>HMS-67105</b>	Ea.
128oz (1gal)		4G / Y 13.1 / S	2	EPS Foam	<b>HMS-67103</b>	Ea.
128oz (1gal)		4G / Y 26.2 / S	4	Corrugated Insert	<b>HMS-67106</b>	Ea.
128oz (1gal)		4G / Y 39.3 / S	6	Corrugated Insert	<b>HMS-67100</b>	Ea.



**Metal Closed Head Drum**

- Tested for Packing Groups I, II, and III
- All metal titehead cans are made of 24-gauge steel
- Acceptable for ground and air shipments

Primary Volume oz (Gal)	UN Rating	Fitments	Color	Lid Type	Liner Material	Item #	Qty
128 (1)	1A1 / X 1.5 / 250	¾" Steel Threaded Bung	Gray	Steel Threaded Bung	Epoxy / Phenolic	<b>HMS-60390U</b>	35
128 (1)	1A1 / X 1.5 / 250	2" Steel Threaded Bung	Gray	Steel Threaded Bung	Epoxy / Phenolic	<b>HMS-60400U</b>	35
128 (1)	1A1 / X 1.5 / 250	2" Steel Threaded Bung	Black	Steel Threaded Bung	Rust Inhibitor	<b>HMS-60410U</b>	35



**1 Gal Closed Head Drum Combination Package**

HMS-67391

Primary Volume oz (Gal)	Liner Material	UN Rating	Color/Style	Fitments	Item #	Qty
<b>Kits With Drums - Assembled</b>						
128 (1)	Epoxy / Phenolic	4G / X 8.8 / S	Gray / Bung	¾" Steel Threaded Bung	<b>HMS-67391</b>	Ea.
<b>Kits With Drums - Unassembled 3</b>						
128 (1)	Epoxy / Phenolic	4G / X 8.8 / S	Gray / Bung	¾" Steel Threaded Bung	<b>HMS-67390</b>	Ea.
<b>Ready For Drums - Unassembled</b>						
128 (1)	—	4G / X 8.8 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	<b>HMS-67392</b>	Ea.



**1 Gal Closed Head Drum Combination Package with Insert**

HMS-67400

Primary Volume oz (Gal)	Liner Material	UN Rating	Color/Style	Fitments	Item #	Qty
<b>Kits With Drums - Assembled</b>						
128 (1)	Epoxy / Phenolic	4G / X 9.7 / S	Gray / Bung	¾" Steel Threaded Bung	<b>HMS-67440</b>	30
128 (1)	Epoxy / Phenolic	4G / X 9.7 / S	Gray / Bung	2" Steel Threaded Bung	<b>HMS-67400</b>	30
128 (1)	Rust Inhibitor	4G / X 9.7 / S	Black / Bung	2" Steel Threaded Bung	<b>HMS-67410</b>	30
<b>Ready For Drums - Unassembled</b>						
128 (1)	—	4G / X 9.7 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	<b>HMS-67420</b>	30
<b>Ready for Drums - Unassembled</b>						
128 (1)	—	4G / X 9.7 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	<b>HMS-67421</b>	Ea.

## Metal Combination Packaging



### 4-Drum 1 Gal Closed Head Combination Package

- Includes corrugated divider
- For use with lined or unlined drums
- Tested with 2" opening

HMS-67393

Primary Volume oz (Gal)	UN Rating	Color/Style	Fitments	Item #	Qty
Ready for Drums - Unassembled					
128 (1)	4G / X 34.8 / S	See 49 CFR §178.601(g)(1)		<b>HMS-67393</b>	Ea.



### Overpack Carton

- For use when shipping single packaging

COR-H51967382

Primary Volume oz (Gal)	Style	Used With	Inner Dimensions	Carton Strength	Item #	Qty
128 (1)	128oz (1 Gallon) Closed Head Drums	HMS-60390, HMS-60400, HMS-60410	6 1/16" x 6 1/16" x 8 3/4"	275 # Single Wall	<b>COR-H51967382</b>	Ea.



### 5 Gal Closed Head Drum Combination Package

- Includes corrugated top pad

HMS-60443

Primary Volume	Liner Material	UN Rating	Color/Style	Fitments	Item #	Qty
Kits With Drums - Assembled						
5gal	Phenolic	4G / X 36.2 / S 4G / Y 51.7 / S	Black / Bung	2" Steel Threaded Bung and 3/4" Steel Threaded Vent	<b>HMS-60442</b>	Ea.
5gal	Phenolic	4G / X 36.2 / S 4G / Y 51.7 / S	Black / Bung / Vent	2" Steel Threaded Bung	<b>HMS-60443</b>	Ea.
Ready for Drums - Unassembled						
5gal	—	4G / X 36.2 / S 4G / Y 51.7 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	<b>HMS-60444</b>	Ea.

## Haz-Waste Boxes

Haz-Waste Boxes are the industry standard for storage, transportation and disposal of solid hazardous or non-hazardous waste material. One box can hold the equivalent of four 55 gallon drums making them the most economical and efficient containers in the industry. Our containers ship and store flat to greatly reduce freight costs and warehouse storage space. Assembly is quick and can be done in minutes on site.

### Meter Haz-Mat Box

Haz-Waste Boxes are the industry standard for storage, transportation and disposal of solid hazardous waste material. Shipped and stored flat greatly reduces freight cost and warehouse storage space. Assembly is quick and can be done in minutes on the job site.

#### Meter Haz-Mat Box

- U.N. Approved for Packing Groups I, II & III (X-Rated box)
- 3 walls of corrugation
- 6 mil polyethylene inner liner
- 2200 lb. (998kg) capacity
- Stacks 2 high when full
- 39 7/8" x 39 7/8" x 39 7/8" inner dimensions
- 40 boxes per pallet



### 3-Wall Haz-Mat Box

3-Wall Haz-Mat Boxes are constructed of rigid triple-wall corrugation and U.N. Approved for Packing Groups I, II, & III (X-Rated Box).

#### 3-Wall Haz-Mat Box

- Heavy duty triple wall corrugation
- Ships and stores flat
- Economical for storing and disposing of waste – Compare to four 55 gallon drums
- Stacks 2 high when full
- Lowers disposal costs



Capacity	UN Rating	Dimensions	Inner Liner	Units/Pallet	Item #	Qty
2200 lb. (998kg)	11G / X / S	39 7/8" x 39 7/8" x 39 7/8"	6-Mil Polyethylene	40	290673	20

Capacity	UN Rating	Dimensions	Inner Liner	Units/Pallet	Item #	Qty
2200 lb. (998kg)	11G / X / S	36" x 36" x 36"	6-Mil HDPE	40	266718	20

## How Do Custom and Stock Packaging Stack Up?

Both custom and stock packaging have their benefits and their trade-offs. The protective capabilities, costs, and operational efficiency are all important to consider when evaluating which type of packaging to use for your UN-rated or temperature-controlled packaging needs.

	Custom	Stock
<b>Speed to Market</b>	<ul style="list-style-type: none"> <li>• Allows customer to ship products that competitor's cannot accommodate</li> <li>• Will take time to design, manufacture and test</li> </ul>	<ul style="list-style-type: none"> <li>• In-stock options with proven performance</li> <li>• End-user may receive package that is more bulky or cumbersome than needed</li> </ul>
<b>Product Protection</b>	<ul style="list-style-type: none"> <li>• Increased protection for your product with packaging that fits your inner containers</li> </ul>	<ul style="list-style-type: none"> <li>• Potential excess of cushioning and secondary packaging</li> </ul>
<b>Operations</b>	<ul style="list-style-type: none"> <li>• Reduce pack-out errors with streamlined components and kits</li> <li>• Achieve a better fit with existing fill operations, assembly lines, and lab robotics</li> <li>• If package handling due to size or weight is an issue, custom design can help eliminate or reduce injuries</li> </ul>	<ul style="list-style-type: none"> <li>• Stock offerings could reduce inventory levels with just-in-time delivery</li> </ul>
<b>Cost</b>	<ul style="list-style-type: none"> <li>• May reduce component, inventory, and freight costs</li> <li>• Improved operational efficiencies using custom packaging solutions</li> <li>• May incur design, testing, and tooling charges</li> </ul>	<ul style="list-style-type: none"> <li>• Larger packaging may increase cost depending upon what is used</li> </ul>
<b>Freight</b>	<ul style="list-style-type: none"> <li>• Designed efficiently to maximize pallet configuration and reduce parcel shipping charges</li> </ul>	<ul style="list-style-type: none"> <li>• Robust packaging for a wider variety of bottles could reduce pallet pack-out and increase freight costs</li> </ul>

## Industrial HDPE Packaging



White HDPE F-Style Plastic Container



Natural HDPE Jugs



Natural Chemical HDPE Jugs



Tamper-Evident Cap and Neck Finish (HMS-364825 and HMS-364825N)

### Plastic Bottles

Capacity	Material	Neck Finish	Dimensions (mm)	Item #	Qty
<b>White HDPE F-Style</b>					
16oz (1pt)	HDPE	33-400	105 x 150	PLA-03248	240
32oz (1qt)	HDPE	33-400	132 x 190	PLA-03249	120
64oz (½gal)	HDPE	38-400	131 x 224	PLA-03250	60
128oz (1gal)	HDPE	38-400	200 x 304	PLA-03244	54
				PLA-03245	6
<b>Natural HDPE Jugs</b>					
64oz (1,920mL)	HDPE	38-400	121 x 254	PLA-03273	40
128oz (3,785mL)	120g HDPE	38-400	157 x 298	PLA-03276	60
<b>Natural Chemical HDPE Jugs</b>					
135oz (4L)	200g HDPE	38-439	152 x 348	PLA-03140	28
135oz (4L)	162g Fluorinated HDPE	38-439	152 x 348	HMS-364825	432
135oz (4L)	162g HDPE	38-439	152 x 348	HMS-364825N	432



Want to use your own inner containers? Page 75 cites 102 CFR §178.601 for acceptable variations.



HMS-68790



HMS-65850

### Single Bottle Plastic All Corrugate Package

- HMS-65850, HMS-65851, and HMS-65854 tested with polypropylene tamper-evident closure

Primary Volume	Primary Container	UN Rating	Neck Finish	Closure/Liner	Item #	Qty
<b>Assembled - Ready for Bottles</b>						
64oz (½gal)	64g HDPE Handled Round	4G / Y 3.3 / S	33-400	Polypropylene - Induction Seal	HMS-68790	Ea.
128oz (1gal)	See 49 CFR §178.601(g)(1)	4G / Y 6.5 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	HMS-68791	25
<b>Kits with Bottles - Unassembled</b>						
128oz (1gal)	See 49 CFR §178.601(g)(1)	4G / Y 6.5 / S	See 49 CFR §178.601(g)(1)	See 49 CFR §178.601(g)(1)	HMS-68791	25
135oz (4L)	162g HDPE Handled Round	4G / Y 6.8 / S	38-439		HMS-65850	Ea.
135oz (4L)	162g Fluorinated HDPE Handled Round	4G / Y 6.8 / S	38-439		HMS-65851	Ea.
<b>Ready for Bottles - Unassembled</b>						
128oz (1gal)	See 49 CFR §178.601(g)(1)	4G / Y 6.5 / S	See 49 CFR §178.601(g)(1)	HMS-68792	Ea.	
135oz (4L)		4G / Y 6.8 / S		HMS-65854	Ea.	

\* See page 71 for bag options





HMS-67116



COR-H81952909

**HDPE F-Style Package**

Primary Volume oz (Gal)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Color	Number of Bottles	Item #	Qty	
Ready for Bottles - Unassembled										
128 (1)	135g HDPE Handled F-Style	4G / Y 27.4 / S	38-400	Polypropylene - F217	Top Pad	—	4	HMS-67116	Ea.	
320 (2.5)	362g HDPE Handled F-Style	4G / Y 28.1 / S	63-400	Polypropylene - Foil Induction Seal	Corrugated Divider and Top Pad	White	2	COR-H81952909	Ea.	
320 (2.5)	362g HDPE Handled F-Style	4G / Y 28.1 / S	63-400	Polypropylene - Foil Induction Seal	Corrugated Divider and Top Pad	Kraft	2	COR-H81952910	Ea.	
								Insert	COR-H21952909	Ea.



HMS-61833

**4-Bottle Industrial Round Package**

- Tested for Packing Groups II and III
- Sustainable packaging
- Pressure tested bottle and bag is required for shipments by air

Primary Volume oz (L)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
Kits with Bottles							
135 (4)	162g Untreated HDPE	4G / Y 27.6 / S	38-439	Polypropylene - PE Foam Liner	Top Pad	HMS-61832	36
135 (4)	162g Untreated HDPE	4G / Y 27.6 / S	38-439 T.E.	PolyPropylene Tamper-Evident Lined Closure	Top Pad	HMS-61833	36
135 (4)	180g Untreated HDPE	4G / Y 31.2 / S	38-439	Polypropylene - PE Foam Liner	Corrugated Divider and Top Pad	HMS-61830	36
135 (4)	162g Fluorinated HDPE	4G / Y 27.6 / S	38-439 T.E.	PolyPropylene Tamper-Evident Lined Closure	Top Pad	HMS-64825	36

\* Closures sold separately; see page 65



HMS-61005

HMS-6759C

**All Corrugated HDPE Package**

- Tested for Packing Groups II and III
- Sustainable packaging
- Tested with polypropylene closures
- Pressure tested bottle and bag are required for shipments by air

Primary Volume oz (ml)	Primary Container	UN Rating	Neck Finish	Closure/Liner	Secondary Style	Number of Bottles	Item #	Qty
Kits with Bottles								
16 (480)	HDPE Narrow Mouth Modern Round	4G / Y 16.0 / S	28-410	See 49 CFR §178.601(g)(1)	Corrugated Top Pad	24	HMS-61005	100
Ready for Bottles								
32 (960)	HDPE Wide Mouth Bottle	4G / Y 7.0 / S		See 49 CFR §178.601(g)(1)	Corrugated Divider with Absorbent Sheet	4	HMS-6759C*	100

\*Includes bag and absorbent

## High-Performance HDPE Packaging

- UN-rated for solids and pastes as single packagings for Packing Groups I, II and III
- Includes tamper-evident features
- Reusable
- Lightweight yet durable
- Additional sizes available, please ask

### Ideal Solution For:

- APIs and other pharmaceuticals
- Fine chemicals
- Hazardous wastes



### HDPE Wide Neck Drums with Red PP Lids

- Stable stacking
- Water-tight closure

Capacity	Opening Size	Dimensions od x hgt mm	UN Rating	Item #	Qty	Convenience Pack Item #	Qty
3.6L (1gal)	136mm	198 x 171	1H2 / X 12 / S	241415	360	248723	10
6L (1.6gal)	136mm	198 x 263	1H2 / X 20 / S	242919	240	248725	15
10L (2.6gal)	203mm	274 x 238	1H2 / X 22 / S	242920	128	248729	8
15L (4gal)	203mm	274 x 327	1H2 / X 22 / S	242922	96	248732	8
20L (5.3gal)	203mm	274 x 417	1H2 / X 27 / S	242923	80	248733	4
26L (6.9gal)	203mm	316 x 425	1H2 / X 33 / S	242924	55	248734	3
Additional Tamper-Evident Zip Sealing Strips						242944	Ea.

### See Next Page For Other Options:

- Total opening drums
- Conductive drums
- UV safe/MILSPEC drums
- Duo packs
- Click packs

### White Packo Containers

- Smooth inside
- Water-tight closure
- Also available with a two-component lid and a UV barrier
- Additional sizes available, please ask
- Overpacks and additional labeling may be required for certain units; please ask

Capacity	Material	Opening Size	Dimensions od x hgt mm	UN Rating	Item #	Qty	Convenience Pack Item #	Qty
10.1oz (300mL)	HDPE	96.8mm	99 x 55.4	1H2 / X 0.4 / S 1H2 / Y 0.6 / S 1H2 / Z 0.9 / S	242933	3,675	248735	90
16.9oz (500mL)	HDPE	96.8mm	99 x 82.4	1H2 / X 0.7 / S 1H2 / Y 1.0 / S 1H2 / Z 1.5 / S	242934	2,415	248736	90
22oz (650mL)	HDPE	96.8mm	99 x 104.4	1H2 / X 0.9 / S 1H2 / Y 1.3 / S 1H2 / Z 1.9 / S	243037	1,890	248737	90
33.8oz (1,000mL)	HDPE	96.8mm	99 x 157.4	1H2 / X 1.3 / S 1H2 / Y 2.0 / S 1H2 / Z 3.0 / S	242935	1,260	248738	90
44oz (1,300mL)	HDPE	96.8mm	99 x 197.4	1H2 / X 1.8 / S 1H2 / Y 2.0 / S 1H2 / Z 3.0 / S	243040	945	248740	60
50.7oz (1,500mL)	HDPE	116mm	119 x 161	1H2 / X 2.0 / S	242939	840	248742	60
67.6oz (2,000mL)	HDPE	116mm	119 x 236	1H2 / X 2.6 / S	243045	630	248743	30
84.5oz (2,500mL)	HDPE	116mm	119 x 266	1H2 / X 3.3 / S	243043	490	248745	30

\* Lids and inner seals sold separately, see below

### Lids and Innerseals for Packo

- Small volume container with innerseal and screw lid
- Water tight closure
- Open and close with just a quarter-turn
- Tamper-evident feature
- Smooth inside



Style	Fits Packo Capacity (ml)	Material	Color	Item #	Qty	Convenience Pack Item #	Qty
Innerseal	300 - 1300	HDPE	Translucent	242936	840	248746	30
Innerseal	1500 - 2500	HDPE	Translucent	242941	490	248747	30
Lid	300 - 1300	HDPE	Red	242937	210	248748	30
Lid	1500 - 2500	HDPE	Red	242943	140	248749	30
Lid with Gasket	300 - 1300	HDPE	Red	242938	210	248750	30





Click Pack<sup>®</sup>

Capacity	UN Rating	Material	Color
15 - 25 Liters	UN-Rated for Solids, PG I	HDPE	White

Click Pack<sup>®</sup>

Capacity	UN Rating	Material	Color
6 - 20 Liters	UN-Rated for Solids, PG II	HDPE	White



Conductive Drums

Capacity	UN Rating	Material	Color
26 Liter, 75 Liter	UN-Rated for Solids	HDPE	Black

Total Opening Drums

Capacity	UN Rating	Material	Color
17 - 110 Liters	UN-Rated for Solids	HDPE	White/Brown



UV Safe Drums

Capacity	UN Rating	Material	Color
6 - 55 Liters	UN-Rated for Solids	HDPE	Black

Nestable Drums

Capacity	UN Rating	Material	Color
30 - 60 Liters	UN-Rated for Solids	HDPE	White



Duo Pack

Capacity	UN Rating	Material	Color
1.2 - 10 Liters	UN-Rated for Solids	HDPE/PP	White

## HDPE Single Packaging

### Baritainer® Jerry Cans

- Treated with QUORAL®
- Replaces lined steel cans
- Replaces fluorinated plastic containers
- Safely transport solvent-based products
- Shipped with a dust cover to minimize outside contaminants
- Recyclable
- Stackable and lightweight
- White, natural, custom colors available
- Pull-out spouts available
- FDA-compliant



HMS-37100

Capacity	Color	Dimensions	Neck Finish	Closure/Liner	UN Rating	Item #	Qty
4L (1.1gal)	White	7-1/4" x 5-1/2" x 8-1/8"	DIN 50 (50mm)	Tamper-Evident HDPE with Gasket	3H1 / Y 1.5 / 150	<b>307351</b>	210
DIN 50 Tamper-Evident HDPE Cap with Gasket						<b>307679</b>	400

### White Open Head HDPE Pails

- Tested for Packing Groups II and III
- Sold in less-than-pallet quantities
- Acceptable for ground and air shipments for solids



240131

Capacity	UN Rating	Item #	Qty
2gal (256oz)	1H2 / Y 9 / S	<b>PLA-03234</b>	60
3.5gal (448oz)	1H2 / Y 43 / S 1H2 / Y 1.5 / 30	<b>240130</b>	18
5gal (640oz)	1H2 / Y 43 / S 1H2 / Y 1.5 / 30	<b>240131</b>	10
6gal (768oz)	1H2 / Y 43 / S 1H2 / Y 1.5 / 30	<b>240132</b>	6



240133



240135



240134

### HDPE Pail Lids

Capacity	UN Rating	Lid Type	Lid Item #	Qty
2gal (256oz)	1H2 / Y 9 / S	Plain Lid	<b>PLA-03294</b>	200
3.5, 5, & 6gal	1H2 / Y 43 / S	UN Tear Tab for Solids	<b>240135</b>	40
3.5, 5, & 6gal	1H2 / Y 43 / S	Plain UN Lid w/ Gasket for Solids	<b>240133</b>	32
3.5, 5, & 6gal	1H2 / Y 1.5 / 30	UN Lid w/ Gasket and Sr. Rieke Spout for Liquids	<b>240134</b>	32



234723

**White HDPE Screw Top Pails**

- Tested for Packing Groups II and III
- Screw top provides moisture-resistant, vacuum-tight seal
- Custom colors and in-mold labeling available
- Acceptable for ground and air shipments for solids

Capacity	UN Rating	Lid Part #	Item #	Qty
<b>Solid</b>				
3.5gal	1H2 / X 16 / S 1H2 / Y 19 / S	Included	234723	144
5gal	1H2 / X 11.5 / S 1H2 / Y 30 / S	Included	236854	120
6.5gal	1H2 / X 11.5 / S 1H2 / Y 30 / S	PLA-13804 (20)	PLA-13803	84
<b>Liquid</b>				
5gal	1H2 / Y 30 / S 1H2 / Y 1.5 / 30	214459 (20)	214458	72

**Closed Head HDPE Single Packaging**

- Tested for Packing Groups II and III
- Other colors available. Contact your Packaging Consultant for more information
- Acceptable for ground and air shipments



280774    PLA-03327    254054    HMS-67470    250813    300359

Capacity	UN Rating	Style	Neck Finish	Lid Type	Fitments	Item #	Qty
2.5gal	3H1 / Y 1.2 / 100	Jerrycan	51-400	Black Ribbed Polypropylene Cap	—	280774	Ea.
5gal	3H1 / Y 1.8 / 150	Carboy	70-400	Natural Polypropylene with Gasket	22mm Vent	254054	Ea.
5gal	1H1 / Y 1.3 / 100	Winpak	70-400	Natural Polypropylene with Gasket	Swing Handle	PLA-03327	Ea.
5gal	1H1 / Y 1.3 / 100	Winpak in Corrugated Overpack	70-400	Natural Polypropylene with Gasket	Swing Handle	HMS-67470	Ea.
5gal	—	Hedpak	38mm Non Back-Off	Natural Polypropylene with Gasket	—	250813	Ea.
5gal	1H1 / Y 1.8 / 100	Winpak	70mm	Natural Polypropylene with Gasket	Swing Handle	266689	Ea.
20L (5gal)	3H1 / Y 1.8 / 150	Winpak	70mm	Natural Polypropylene with Gasket	Swing Handle	300359*	96
6gal	1H1 / Y 1.8 / 100	Winpak	70mm	Natural Polypropylene with Gasket	Swing Handle	270158	Ea.

\* Closure sold separately



**Coliwasa Drum Samplers**

- Easy-to-use sample tube for viscous liquids and semi-liquids
- Equipped with locking handle
- Engineered with sealing mechanism to prevent spillage
- Made of durable translucent HDPE to prevent rusting

Capacity	Material	Style	Tube Length	Tube Diameter (in.)	Item #
4oz	Polypropylene	Waste Sampling Tube	42 in.	0.75 in.	HMS-68763
32oz	Polypropylene	Waste Sampling Tube	40 in.	1.5 in.	HMS-68760

## Metal Single Packaging

### Open Head Metal Pails

- 5 gal pails have plain lug lid, no fittings
- 6.5 gal pails have lever-locking ring
- Corrugated overpack available, see below
- Acceptable for ground and air shipments



237542

Capacity	UN Rating	Liner Material	Color	Lid Part #	Item #	Qty
5gal	1A2 / Y 1.8 / 100	Phenolic	Gray	Included	<b>237538</b>	120
5gal	1A2 / Y 2.0 / 100	Rust Inhibitor	Black	Included	<b>237542</b>	96
5gal	1A2 / Y 1.6 / 70	Rust Inhibitor	Black	MET-03063	<b>MET-03077</b>	120
5gal	—	Rust Inhibitor	Black	—	<b>MET-03063</b>	50
6.5gal	1A2 / X 15 / S	Rust Inhibitor	Black	Included	<b>HMS-60441</b>	60



MET-03035

### 5 Gal Closed Head Metal Drums

- Additional colors and options available. Contact your Packaging Consultant for more information
- Corrugated overpack available, see below
- Acceptable for ground and air shipments

UN Rating	Liner Material	Lid type	Fitments	Color	Item #	Qty
1A1 / X 1.6 / 280	Phenolic	Phenolic	2" Bung Opening with Rieke Plug	Black	<b>MET-03035</b>	36
1A1 / Y 1.5 / 100	Rust Inhibitor	Rust Inhibitor	3" Metal Pull-Out Tube Spout	Gray	<b>237536</b>	36
1A1 / X 1.6 / 300	Phenolic	Phenolic	2 3/4" Bung Vent	Black	<b>242960</b>	84

### Molded Pulp Overpack

- Decreases the probability of damage during shipment, which means less unusable product or wasted money
- Eliminates small parcel shipping claims for damaged goods and surcharges
- Ready for open head metal pail or closed head metal drum



Primary Volume	Description	Inner Dimensions	Item #	Qty
3.25gal	Carton for 3.25 Gallon Container	15 1/2" x 15 1/2" x 14"	<b>COR-H819644328</b>	Ea.
5gal	Carton for 5 Gallon Container	15 1/2" x 15 1/2" x 18"	<b>COR-H819644329</b>	Ea.
3.25 or 5gal	Molded Pulp End Cap (Set of 2)	—	<b>HMS-96550</b>	Ea.

\* Inserts sold separately. Customer should purchase two (2) for one overpack.

## Our Services:

Dangerous Goods provides our customers all encompassing solutions with our array of services, including:



### Inventory Management

Inventory occupies a lot of cash and costs a lot to maintain. We will partner with you to take inventory of your income statement.



## Customer Support

We don't want to just satisfy our customers, we want to thrill them. We work with you to resolve any pain points and ensure that you have everything you need.



**Metal Closed Head Drum**

- Tested for Packing Groups I, II, and III
- All metal titehead cans are made of 24-gauge steel
- Acceptable for ground and air shipments

HMS-60390U      HMS-60400U      HMS-60410U      HMS-11569      302691

Primary Volume oz (Gal)	UN Rating	Fitments	Color	Lid Type	Liner Material	Item #	Qty
128 (1)	1A1 / X 1.5 / 250	3/4" Steel Threaded Bung	Gray	Steel Threaded Bung	Epoxy / Phenolic	HMS-60390U	35
128 (1)	1A1 / X 1.5 / 250	2" Steel Threaded Bung	Gray	Steel Threaded Bung	Epoxy / Phenolic	HMS-60400U	35
128 (1)	1A1 / X 1.5 / 250	2" Steel Threaded Bung	Black	Steel Threaded Bung	Rust Inhibitor	HMS-60410U	35
405 (3.17)	—	—	Lavender	Screw cap with inner dust cap	Epoxy	HMS-11569	48
537 (4.2)	—	—	Gray	Steel Threaded Bung	Phenolic	302691	48
405 (3.17)	—	—	Gray	Outer screw cap	—	Type N 304SS	48
5747 (44.9)	—	—	Gray	NPT threads on flange closure	—	170LCone	4

**Large Open And Closed Head Drums**

- Quantities vary, please contact a Packaging Consultant for more information
- Contact your Dangerous Goods Packaging Consultant about options for interior coatings, different features, sizes, styles, and steel thicknesses
- Applications include chemicals, pharmaceuticals, hazardous waste, and radioactive waste disposal

Capacity	UN Rating	Description	Lid Types	Color
5 - 110 gallons	Solids, Liquids, and Dual	Carbon Steel Drums (Open or Closed Head)	—	Black
13.5 - 215 liters	Solids and Liquids	Stainless Steel Drums (Open or Closed Head)	—	Stainless
5 - 110 gallons	Solids, Liquids, Dual, and T-Rated	Salvage Drums	Locking Ring	Yellow
0.1 - 1000 liters	Solids and Liquids	Ultra Clean Lidded Müller Drums	Clamping Ring	Stainless
12 - 215 liters	Liquids	Drums with Bungs	2" and 3/4" Closures with PTFE Seals	Stainless



Carbon Steel Drums



Stainless Steel Drums



Salvage Drums



Ultra Clean Drums



Stainless Steel Drum with Bungs



**Quality Assurance**

Berlin Packaging's Quality Service Division is equipped with the tools, knowledge and experience to help with packaging and production troubleshooting.



**Depalletizing & Repalletizing**

Getting bogged down with shrink wrapping, labeling, and bar coding? We do it all so that you can focus on your business.

## Category A and B, Biological Substances and Exempt Human Specimen Packaging

The DOT requires triple packaging for all Category A and B substances. All kits come complete with all of the components and labels you need to be in compliance, with the exception of your primary receptacle. These requirements are:

1. A leakproof primary receptacle
2. A leakproof secondary receptacle
3. A strong outer container that has a minimum of one rigid side and 4" in width

Sufficient absorbent material must be placed between the primary and secondary receptacles [49 CFR 5173.196].



### Category A Ambient Infectious Substance Package

- HMS-69010 sold each quantities.
- HMS-69302 sold in cases of 12
- All packages include absorbent
- See page 55 for primary containers
- Packages acceptable for ground and air shipments



HMS-69302



HMS-69010

UN Rating	Primary Container	Primary Volume	Neck Finish	Closure/Liner	Number of Bottles	Secondary Style	Item #
<b>Ready for Bottles</b>							
4G / Class 6.2	Threaded Flint Glass Vial	2dram (7.5mL)	15mm	Phenolic - F217 / PTFE	12	Paint Can with Pressure Ring	HMS-69010
4G / Class 6.2	Threaded Glass Vial Friction Fit PET Vial	35mL 6.2mL	18mm 13mm	Phenolic - Polycone PE - Plug/Gasket	3 x 3 3 x 15	Small 95 kPa Pressure Bag	HMS-69302



HMS-69110



HMS-66091



HMS-69050



HMS-69160

**Category A Temperature-Controlled Package**

- Suitable for gel packs or dry ice

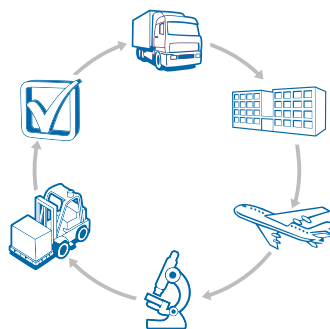
UN Rating	Primary Container	Primary Volume	Payload Capacity	Neck Finish	Closure/Liner	Number of Bottles	Secondary Style	Item #	Qty
<b>Ready for Bottles</b>									
4GU / Class 6.2	Threaded Glass Vial	2dram (7.5mL)	12lbs Dry Ice, 24oz Gel Pack	15mm	Phenolic - F217 / PTFE	5	HDPE Pressure Tested Jar	HMS-69110	4
4G / Class 6.2	—	—	8.5kg (18.7lbs) Dry Ice	—	—	—	Tall Paint Can with Pressure Ring	HMS-66091	2
4G / Class 6.2	Threaded Glass Vial	2dram (7.5mL)	10.4kg (23lbs) Dry Ice	15mm	Phenolic - F217 / PTFE	12	Paint Can with Pressure Ring	HMS-69050	8
								HMS-6905M	2
4G / Class 6.2	Threaded Polypropylene Vial	2mL	11.0kg (24lbs) Dry Ice	12mm	Polypropylene - Valve Seal	3 - 81 vial well plates	Slip Cover Can	HMS-69160	15

**Packaging Return and Reuse**

We can manage all aspects of packaging return and reuse, from bar coding to warehousing to pick-up and delivery through product cleaning and refurbishment. This can be an ideal solution for specimen shipments, sample collection kits, sensitive electronics, chemicals, and pharmaceuticals.

**Features:**

- Packaging leasing and ownership options
- Component refurbishment, cleaning, and assembly
- Rigorous quality assurance protocols
- Warehousing and shipping based on your demand



**Benefits:**

- Reduce your packaging total cost of ownership
- Rapid return on investment
- Lower cost-per-trip than single-use packaging
- Leverage our network of warehouses across the U.S. for just-in-time delivery

## Category B Biological Substance



### Category B Ambient Package

- See page 55 for primary containers
- Packages acceptable for ground and air shipments

UN Rating	Primary Container	Primary Volume	Neck Finish	Closure/Liner	Number of Bottles	Secondary Style	Item #	Qty
Ready for Bottles								
Complies to IATA Packing Instruction 650	Threaded Glass Vial	11dram (40mL)	24-400	Phenolic - Polycone	3	HDPE Pressure Tested Jar	<b>HMS-69201</b>	12
Complies to IATA Packing Instruction 650	Friction Fit PET Vial	3mL	10mm	PE - Plug/Gasket	20	Small 95 kPa Pressure Bag	<b>HMS-69400</b>	12

### 95 kPa Pressure Tested HDPE Secondary Specimen Jar



Dimensions (D x H)	Neck Finish	Style	Item #	Qty
3.22" x 5.08"	89-400	Wide Mouth Specimen Jar	<b>HMS-36907</b>	69
—	89-400	Smooth	<b>CAP-05843</b>	Ea.

### 95 kPa Pressure Bags with Biohazard Mark

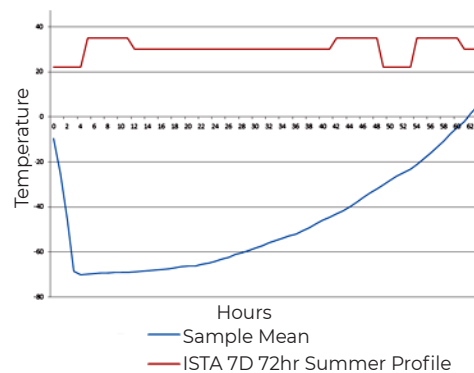


Usable Area	Total Area	Item #	Qty
4 1/4" x 6 1/8"	8 1/4" x 5 1/4"	<b>HMS-81821</b>	500
6" x 9 1/8"	7" x 11 1/2"	<b>HMS-81824</b>	700
10 1/4" x 14"	11 1/2" x 16 1/2"	<b>HMS-81825</b>	250
13 1/4" x 17 7/8"	14 1/4" x 21 1/2"	<b>HMS-81827</b>	100

## Thermal Validation Through Our In-House Testing Services

### ISTA 7D Summer Profile for HMS-69250

- Refrigerant: 9.1 kg (20 lbs) dry ice pellets
- Duration: 62 hours (min. -3° C, max. 18° C)





**Exempt Human Specimen Package**

- Follows IATA guidelines for exempt human/animal specimens
- Includes leak-proof pressure tested secondary packaging



UN Rating	Secondary Style	Inner Dimensions	Item #	Qty
<b>Ready for Bottles, Ambient</b>				
Complies to IATA 3.6.2.2.3.8	Small 95 kPa Pressure Bag	9 1/8" x 7 1/8" x 3 3/8"	HMS-69500	12
<b>Read for Bottles, Temperature Controlled</b>				
Complies to IATA 3.6.2.2.3.8	8" x 10" Zip Bag	10 1/8" x 5 1/8" x 9 3/8"	HMS-69501	48



**Category B Temperature-Controlled Package**

UN Rating	Primary Container	Primary Volume	Payload Capacity	Neck Finish	Closure/ Liner	Number of Bottles	Secondary Style	Item #	Qty
<b>Ready for Bottles, Temperature Controlled</b>									
Complies to IATA Packing Instruction 650	Threaded Polypropylene Vial	3.5mL	3.9kg (8.6lbs) Dry Ice	12mm	PE Closure	2 - 8 vial bags	Small 95 kPa Pressure Bag	HMS-68241	42
								HMS-6824M	4
Complies to IATA Packing Instruction 650	Threaded Polypropylene Vial	2mL	9kg (19.8lbs) Dry Ice	12mm	Polypropylene - Valve Seal	4 - 81 vial well plates	Large 95 kPa Pressure Bag	HMS-69250	20
								HMS-6925M	2
Complies to IATA Packing Instruction 650	LDPE bag with ziptie	8.3kg	4 x 24oz Gel Packs	—	—	—	XL 95 kPa Pressure Bag	HMS-69260	Ea.



Sharps or Medical Device Return Package

UN Rating	Secondary Style	Item #	Qty
<b>Without Pressure Bag</b>			
USPS Requirements	32 oz Wide Mouth Jar	<b>HMS-61090</b>	194
FedEx and UPS Requirements	2L HDPE with Polypropylene Closure	<b>HMS-610906</b>	240
<b>Pressure Bag Included</b>			
USPS Requirements	32 oz Wide Mouth Jar	<b>HMS-610907</b>	194
FedEx and UPS Requirements	2L HDPE with Polypropylene Closure	<b>HMS-610904</b>	240

## Medical Kitting Services

At-home healthcare is a growing industry. With telemedicine on the rise, an area that continues to see growth is medical kitting services, specifically designed for at-home use. With this ever evolving industry, it's important to understand the production of healthcare product packaging and what it means for companies and their customers. Our custom kitting solutions will simplify your shipment preparation by expertly organizing your components and then creating custom kits to ship to your end destination. Our solutions make everything move smoothly from start to finish! Our 300,000 sq. ft. facility is registered with the FDA as a Medical Device Manufacturer and its processes and systems are compliant to all applicable parts of 21 CFR part 11, cGMP and 21 CFR820.

### Global Kitting & Distribution Services

Our customizable approach means that your kits are compiled to meet your requirements.



#### Global Sourcing

High quality sourcing solutions from all points on the globe to your door.



#### Quality Management

Proactive and reactive support to make quality a competitive advantage for you.



#### Bar-Coding & Pre-Labeling

A trusted partner accurately and expediently tracking your products.



#### Custom Kitting

The quality, expertise, customization, and convenience you need for your business.



#### Distribution & Replenishment

6+ million square feet of warehouse space and our vast experience with inventory management.



#### Tracking & Reporting

Increased service quality by tracking location and arrival.

### Case Study: One-Stop Shop for At-Home Diagnostic Test Company

An at-home diagnostic test company was unhappy with their service from multiple packaging suppliers. The customer was looking to have assembly, kitting & shipping under one roof for their exempt human specimen packaging. Berlin Dangerous Goods offered several solutions, all with the goal of consolidating and simplifying the customer's requirements:

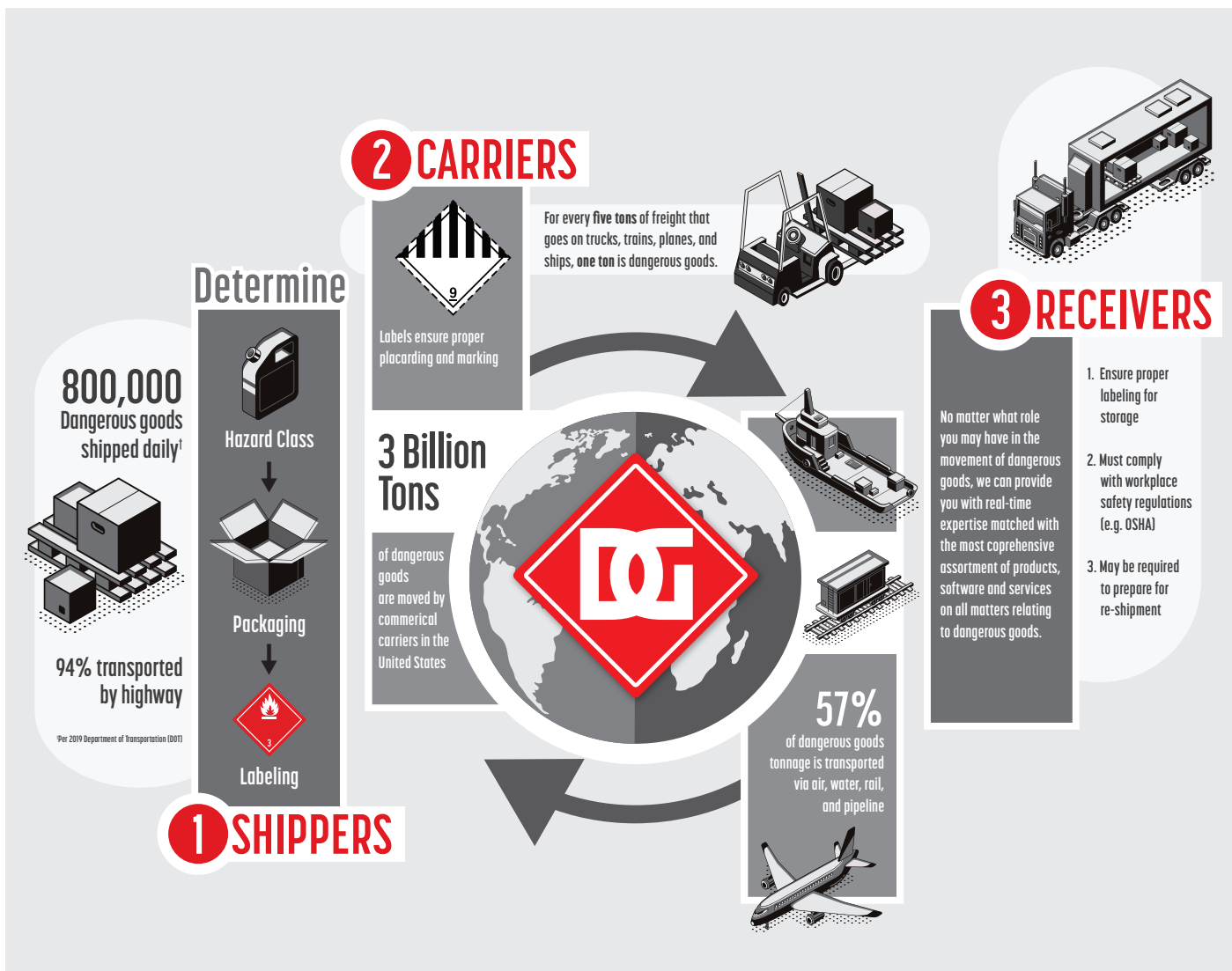
- Provide kitting & fulfillment from our 300,000 sq. ft. warehouse facility
- Utilize QR tracking technology for easily tracking customer shipments
- Fulfillment direct to customers, utilizing our multiple value-added services

These solutions resulted in significant bottom-line savings on packaging, inventory carrying costs, and fulfillment fees.

# TRANSPORT OF **DANGEROUS GOODS**



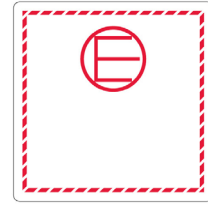
Hazardous materials are essential to our economy. These materials include everything from paints and batteries to explosives and caustic chemicals. No matter the use, dangerous goods must be handled with care. There are special regulations and procedures with which to comply when these goods are shipped by air, ground, rail, and sea.



Contact the Regulatory Experts at Dangerous Goods for a FREE Compliance Check 1.800.413.8867 or [DGInfo@BerlinPackaging.com](mailto:DGInfo@BerlinPackaging.com).

## About Small and Excepted Quantity Packaging



Certain hazardous materials, when shipped in very small quantities, may be exempt from most marking, labeling, and packaging requirements for the material's hazard class. However, the DOT and IATA require triple packaging for excepted quantity shipments: an inner (primary) container, secondary intermediate container, and a strong, rigid outer packaging. Ref: 49 CFR §173.4(a).



- Tested for inner containers 30 mL (1 oz) or less
- Packages must include absorbent material
- All packages ship ready for an inner container
- All packages are marked to ship via ground transportation per 49 CFR §173.4
- Pressure tested primary/secondary container and excepted quantity marking required for air transport
- UN Rating: This package conforms to 49 CFR §173.4

See our Vials on page 53

Primary Container	Primary Volume oz (ml)	Neck Finish	Closure/Liner	Number of Bottles	Secondary Style	Item #	Qty
<b>Charcoal Foam Package</b>							
See 49 CFR §173.4	0.23 (7)	See 49 CFR §173.4		25	Charcoal Foam	HMS-61700	Ea.
	0.96 (28.5)			25		HMS-6170M	Ea.
				30		HMS-6171M	16
<b>Well Plate Package</b>							
See 49 CFR §173.4	Well plates	See 49 CFR §173.4		—	Charcoal Foam	HMS-61703	Ea.
				12		Corrugated Partitions and Pads	HMS-68650
<b>95 kPa Pressure Bag Package</b>							
Glass Vial	1 (30)	See 49 CFR §173.4		4	95 kPa Pressure Bag	HMS-61934	10

 Want to use your own inner containers? Page 75 cites 98 CFR §173.4a for acceptable variations. 

## Dedicated Quality Department

A dangerous goods packaging system can have many working parts. From primary containers and closures, to absorbent and cushioning, to the outer fiberboard carton and closing tape; these components must work together to provide a compliant system to ensure the safe transport of dangerous goods. Changes in any of these components, such as deviations in the manufacturing process or quality issues in the products, can cause a package to become non-compliant or even worse, cause a shipping incident resulting in fines, damage, or death.

Partnering with a company, like Berlin Dangerous Goods, that has a Quality Service Division dedicated to both proactive and reactive support is another example of how we aim to thrill our customers with the best products and services. For more information, visit: [BerlinDangerousGoods.com/quality](http://BerlinDangerousGoods.com/quality).



# Temperature-Controlled Packaging



## Refrigerants

Three of the more common refrigerants are listed below along with some of the relative merits of each type. Keep in mind that refrigerants and insulating packaging must be considered as a complete system.

	Dry Ice	Gel Packs and Foam Bricks	Phase Change Material (PCM)
<b>Definition</b>	The solid form (typically in pellets or blocks) of carbon dioxide	A rigid plastic container (foam brick) or soft-sided pouch (gel pack) containing a liquid (e.g., water or refrigerant gel) available in a variety of shapes, sizes, and thicknesses	A material that changes phases (from solid to liquid or liquid to gas) at a given temperature
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Inexpensive</li> <li>Readily available</li> <li>Does not require pre-conditioning</li> </ul>	<ul style="list-style-type: none"> <li>Can be re-washed, reconditioned, and then re-used</li> <li>Simplifies pack-outs; no need to weigh it as the packaging system specifies the number to use</li> <li>Rugged; suitable for rough environments</li> </ul>	<ul style="list-style-type: none"> <li>Can be re-washed, reconditioned, and then re-used</li> <li>Protects against temperature excursions for extended time windows</li> <li>Provides the tightest temperature control</li> <li>Enables temperature control outside of frozen or refrigerated ranges (i.e., controlled room temperature)</li> </ul>
<b>Trade-offs</b>	<ul style="list-style-type: none"> <li>Special handling and training is required for use (See the 49 CFR §173.217)</li> <li>Regulated as a hazardous material in air transport</li> <li>Must weigh the dry ice to ensure the required amount is used</li> <li>Not for use if product is adulterated by extreme cold</li> <li>As it sublimates (turns to vapor), void spaces will open and the product may shift in transit</li> </ul>	<ul style="list-style-type: none"> <li>Non-rigid gel packs may not maintain shape as they freeze</li> <li>May contain hazardous materials</li> <li>If received at room temperature, may take a few days to re-condition them to the correct temperature</li> </ul>	<ul style="list-style-type: none"> <li>May contain hazardous materials</li> <li>May not be recyclable</li> </ul>

Other refrigerants used in the cold chain include gel mats, wet ice, thermal blankets, and liquid nitrogen.

## Insulating Materials

The two most common types of insulated packaging for non-bulk shipments of temperature-sensitive materials are expanded polystyrene (EPS) foam and polyurethane (PUR). The relative merits of each type are detailed in the table below.

	Expanded Polystyrene (EPS) Foam	Polyurethane (PUR) Foam
<b>Definition</b>	A closed-cell, lightweight, rigid-foam plastic typically molded (rather than formed) into panels	A rigid piece of polyurethane foam molded into shape or used as an insulating panel
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Lightweight</li> <li>Inexpensive</li> <li>Recyclable</li> <li>Re-usable</li> <li>Superior dry ice sublimation</li> </ul>	<ul style="list-style-type: none"> <li>Sturdy protection from rough distribution environments</li> <li>Re-usable many times</li> </ul>
<b>Trade-offs</b>	<ul style="list-style-type: none"> <li>Doesn't withstand multiple re-use as well as PUR or VIP</li> <li>Bulkier design requires lots of storage space</li> </ul>	<ul style="list-style-type: none"> <li>More expensive than EPS</li> <li>Cannot be recycled</li> </ul>
<b>R-Value</b>	<ul style="list-style-type: none"> <li>Lowest</li> </ul>	<ul style="list-style-type: none"> <li>Medium</li> </ul>
<b>Best Suited for</b>	<ul style="list-style-type: none"> <li>Refrigerated or frozen materials shipped within a short transit duration</li> </ul>	<ul style="list-style-type: none"> <li>Larger payloads</li> <li>Extended domestic shipping windows</li> </ul>

## Temperature-Controlled Packaging



### EPS Foam Insulated Overpacks

- Unless noted, all insulated overpacks come with outer corrugated carton

Dimensions	Inner Dimensions	Wall Thickness	Secondary Style	Item #	Qty
10 7/8" x 8 7/8" x 7"	7 3/4" x 5 7/8" x 4"	1.5"	White Carton with Up Arrows	HMS-66232	Ea.
10 7/8" x 9" x 9"	7 3/4" x 5 7/8" x 6"	1.5"	White Carton with Up Arrows	HMS-66242	2
10 7/8" x 8 7/8" x 11 1/2"	7 3/4" x 5 7/8" x 10 1/2"	1.5"	White Carton with Up Arrows	HMS-66240	Ea.
10 7/8" x 8 7/8" x 11 1/2"	7 3/4" x 5 7/8" x 8 1/2"	1.5"	White Carton with Up Arrows	HMS-66244	Ea.
17" x 14 1/8" x 12 1/4"	13 1/4" x 10 1/2" x 9 1/4"	1.5"	White Carton with Up Arrows	HMS-66250	Ea.
24" x 17" x 16 1/2"	19 1/2" x 12 1/2" x 12 1/2"	2"	No Carton	HMS-86691	Ea.
23 1/2" x 19 3/4" x 14 7/8"	19 1/2" x 15 1/2" x 10 3/4"	2"	White Carton with Up Arrows	HMS-86692	Ea.
24" x 17" x 16 1/2"	19 1/2" x 12 1/2" x 12 1/2"	2"	White Carton with Up Arrows	HMS-66270	Ea.
38" x 19 3/4" x 14 7/8"	34" x 15 1/2" x 10 3/4"	2"	Kraft Carton with Up Arrows	HMS-86693	Ea.



### Urethane Insulated Overpacks

- Higher R-value than EPS foam means better performance
- Easily customized designs

Dimensions	Inner Dimensions	Wall Thickness	Secondary Style	Item #	Qty
22" x 14" x 14"	18" x 10" x 10"	2"	Kraft Carton with Up Arrows	HMS-66288	Ea.
19 1/2" x 15 1/2" x 18 1/4"	17 1/2" x 15" x 16 1/4"	1"	Kraft Overpack Carton with Up Arrows	HMS-66280	Ea.
23 1/2" x 18" x 19 1/4"	21 1/2" x 16" x 17 1/4"	1"	Kraft Overpack Carton with Up Arrows	HMS-66281	Ea.
22" x 22" x 22"	20" x 20" x 20"	1"	Kraft Overpack Carton with Up Arrows	HMS-66282	Ea.

## Shipping Temperature-Sensitive Materials

### Considerations in Packaging Selection

Lives depend on the safe and secure transport of vaccines and pharmaceuticals as well as biological substances such as plasma, blood, organs, and tissue. The market for these types of products is enormous. The biopharmaceutical sector alone contributes more than \$917 billion to the U.S. economy annually.

Many of these critical products are sensitive to temperature and need to be shipped in a controlled, "cold chain" supply system. All of this adds complexity and, combined with the value and importance of the products, risk mitigation, particularly risk of product adulteration from temperature excursions, is essential. Our white paper focuses on understanding the cold chain and temperature-controlled packaging. Visit [BerlinDangerousGoods.com/TCP](http://BerlinDangerousGoods.com/TCP).





**Temperature-Controlled UN-Rated Packages**

- Suitable for gel packs or dry ice
- Packages acceptable for ground and air shipments

UN Rating	Primary Volume oz (L)	Primary Material	Neck Finish	Closure/Liner	Secondary Style	Item #	Qty
Ready for Bottles, Temperature Controlled							
4GV / X 16.2 / S	33 (1)		See 49 CFR §178.601(g)(2)		Tall Paint Can	HMS-66090	8
4G / Z 26.2 / S	135 (4)		See 49 CFR §178.601(g)(2)		Polyurethane Foam Pad with Bag	HMS-66285	Ea.



**Refrigerant Packs**

- Other sizes available. Please contact your Packaging Consultant for more information

Style	Dimensions	Item #	Qty
24oz Gel Pack	8" x 5 1/2" x 1 1/2"	HMS-86917	24
24oz Rigid Gel Pack	7 1/2" x 8 1/2" x 7/8"	HMS-86912	24

**Why Compliance Made Easy® is Important**

Berlin Dangerous Goods excels at being a resource for the regulatory community. With our extensive knowledge of regulations as they pertain to the packaging of hazardous materials and our engagement with leading industry associations – we can take your compliance to the next level.

Why is that important? Non-compliance can have a direct financial impact with costly penalties for violations, return shipments, or product lost. Companies with higher levels of compliance see an increase in revenue by improving on-time delivery, avoiding bad publicity, and improving their brand image allowing them to be a more attractive supply-chain partner.

Whether you feel like you're on an island and need a regulatory expert in your corner, or, feel that your existing compliance systems could use a wellness check to make sure they are optimizing your resources – contact your Dangerous Goods Packaging Consultant today! We can show you how Compliance Made Easy® can turn your processes into increased revenue.



## PCM Temperature-Controlled Packaging Systems

- High performance thermal protection of clinical samples, pharmaceutical, blood, and vaccine productions
- Simple packout procedure
- Keeps temperature sensitive payloads within safe limits
- Offered for Frozen, Refrigerated, and CRT
- Shipping cost savings due to low tare and volumetric weight
- High reliability with reusable Polyurethane Foam (PUF) insulation and high performance PCM



### Frozen < 0°F (-18°C)

Outer Dimensions (Inches)	Insulation Thickness	Pouch Qty	Payload Capacity (Inches)	Hold Over Time	Item #
8 x 6 ½ x 5	1"	2	5 x 6 x 1 ½	12 hrs	HMS-51340
10 x 8 x 5	1"	2	8 x 6 x 1 ½	12 hrs	HMS-51341
16 x 12 x 15	2"	6	12 x 8 x 4 ½	24 hrs	HMS-51342
22 x 14 x 15	2"	12	17 x 9 x 3	24 hrs	HMS-51343

### Refrigerated +36°F (2°C) to +46°F (8°C)

Outer Dimensions (Inches)	Insulation Thickness	Pouch Qty	Payload Capacity (Inches)	Hold Over Time	Item #
8 x 6 ½ x 5	1"	2	5 x 6 x 1 ½	12 hrs	HMS-51330
10 x 8 x 5	1"	2	8 x 6 x 1 ½	12 hrs	HMS-51331
16 x 12 x 15	2"	4	12 x 8 x 6 ½	24 hrs	HMS-51332
		6	12 x 8 x 4 ½	48 hrs	HMS-51333
22 x 14 x 15	2"	8	17 x 9 x 5	24 hrs	HMS-51334
		12	17 x 9 x 3	48 hrs	HMS-51335

### Controlled Room Temperature +59°F (15°C) to +77°F (25°C)

Outer Dimensions (Inches)	Insulation Thickness	Pouch Qty	Payload Capacity (Inches)	Hold Over Time	Item #
8 x 6 ½ x 5	1"	2	5 x 6 x 1 ½	24 hrs	HMS-51320
10 x 8 x 5	1"	2	8 x 6 x 1 ½	24 hrs	HMS-51321
16 x 12 x 15	2"	2	12 x 8 x 8	24 hrs	HMS-51322
		4	12 x 8 x 6 ½	48 hrs	HMS-51323
		6	12 x 8 x 4 ½	72 hrs	HMS-51324
22 x 14 x 15	2"	4	17 x 9 x 7	24 hrs	HMS-51325
		8	17 x 9 x 5	48 hrs	HMS-51326
		12	17 x 9 x 3	72 hrs	HMS-51327

### Specimen Transport Kit at CRT (+59°F (15°C) to +86°F (30°C)

Outer Dimensions (Inches)	Insulation Thickness	Pouch Qty	Payload Capacity (Inches)	Hold Over Time	Item #
8 x 6 ½ x 5	1"	4	5 x 6 x 1	24 hrs	HMS-51350





**Phase Change Material (PCM) Pouches**

- Made with bio-based, water-based, or organic safe and reusable coolant material
- Remains stable for thousands of uses

Item	Temperature	Season	Application	Pouch Dimension (Inches)	Weight (G)	Case Pack	Case Dimension (Inches)	Item #
Incubation Packs	Body Temperature	All	Transport of live mammalian tissue and live cultures and tissue	5 x 6 x ¼	150	50	12 x 8 x 8	HMS-51300
Ambient Packs	+59°F (15°C) to +77°F (25°C)	Summer	Clinical Specimen at CRT, prescription medicine, EpiPen®, and transport and storage of platelets	5 x 6 x ¼	200	50	12 x 8 x 8	HMS-51301
				8 x 6 x ¼	500	20	12 x 8 x 8	HMS-51302
CRT Packs	+59°F (15°C) to +77°F (25°C)	Winter	Biological Specimen, prescription drugs, and transport and storage of EpiPen®	5 x 6 x ¼	100	50	12 x 8 x 8	HMS-51303
				8 x 6 x ¼	250	20	12 x 8 x 8	HMS-51304
Ice Packs	< 0°F / -18°C	All	Frozen biological specimen, transport and store frozen plasma and vaccine	5 x 6 x ¼	200	50	12 x 8 x 8	HMS-51305
				8 x 6 x ¼	500	20	12 x 8 x 8	HMS-51306
Cool Packs	+36°F (2°C) to +46°F (8°C)	All	Refrigerated biological specimen and vaccines, Whole Blood (RBC), delivery and transport of Insulin	5 x 6 x ¼	100	50	12 x 8 x 8	HMS-51307
				8 x 6 x ¼	250	20	12 x 8 x 8	HMS-51308

**Success Stories**

Berlin Dangerous Goods' mission is to help you become more efficient, effective, and profitable. Dangerous Goods will take your compliance to the next level with our outstanding service, competitive pricing, and top-quality UN-rated and temperature-controlled packaging.

**Opportunity: A shipping container that serves as the freezer.**

**Challenges:**

- A collection center needs to transport large quantities of biological materials, maintaining a temperature below 8° C to be viable for testing without the use of dry ice.

**Solution:**

- An engineered insulated box that maintains a 8° C temperature or below for a minimum of 72 hours or longer, depending upon ambient temperatures.

**Results:**

- The Company experienced a 50% reduction in transport costs due to the newly implemented and validated shipping system. The new system doubled their payload capacity. Zero excursions have been experienced, representing more than 50,000 shipments and counting.

**Recycle, Reuse, and Save:**

- The durable insulated boxes are designed to be used multiple times, which further lowers the Company's costs and provides environmental benefits.

**Ready to take the next step?**

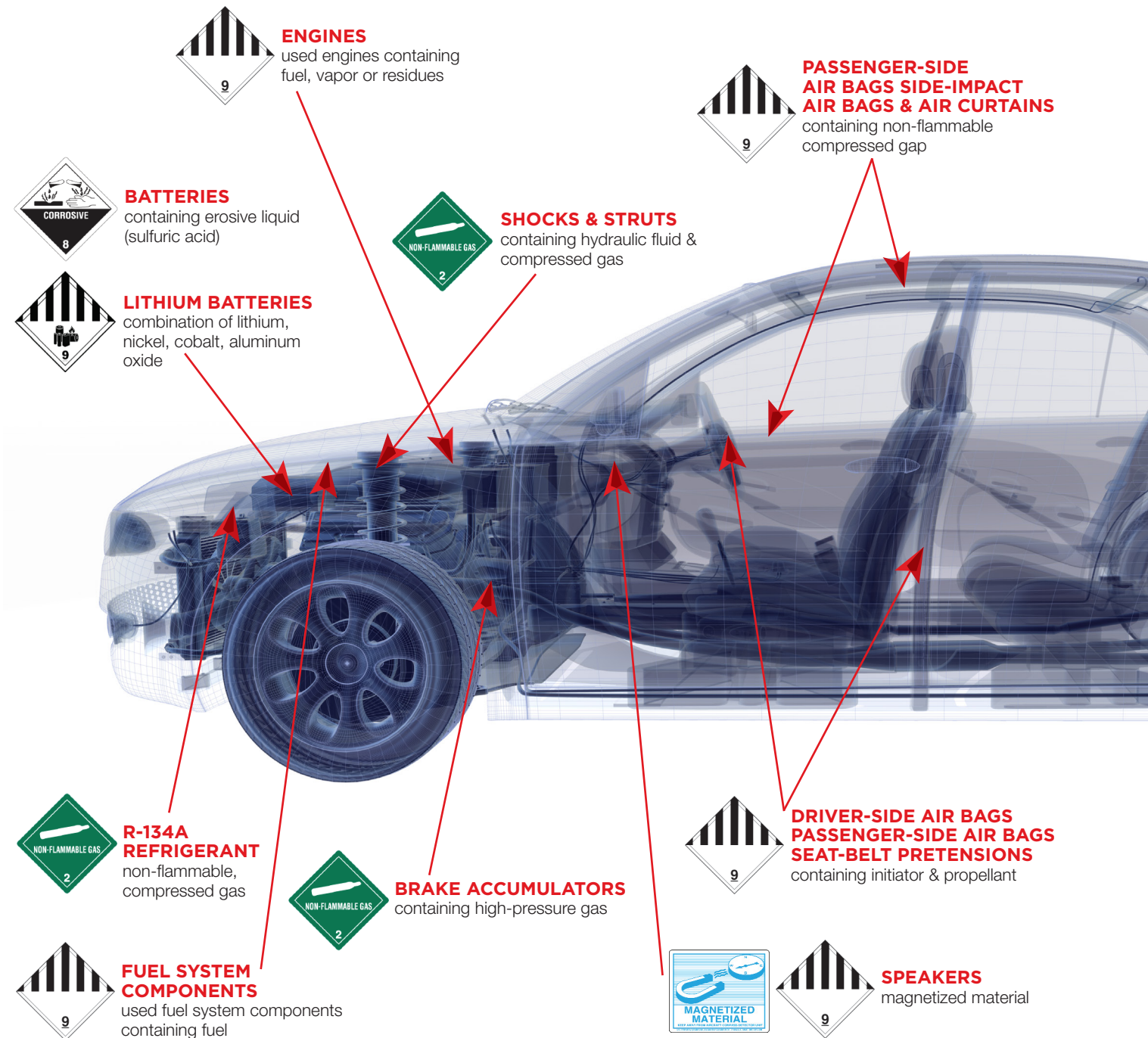
Our dedicated team is highly trained in regulatory compliance and can assist you with even your most challenging needs. Specific refurbishment programs can be developed upon request! Call 1.800.413.8867 or visit [BerlinDangerousGoods.com](http://BerlinDangerousGoods.com).

## Dangerous Goods Shipping Solutions for the Automotive Industry

Many automotive components are actually regulated dangerous goods. To help you meet compliance and DOT regulations, Dangerous Goods, a division of Berlin Packaging, offers assistance in determining UN-rated packaging for automotive suppliers and dealers. DG can assist you in:

- Selecting compliant packaging.
- Determining which products are regulated and which are not.
- Assist in determining latest regulations from the DOT and PHMSA

### Dangerous Goods Found in Automobiles



**PAINT, ADHESIVES & SEALANTS, ETC.**  
 paint, adhesives and sealants containing flammable solvents

Consumer Commodity classification applies to limited quantity hazards packaged for individual retail sales (US only)

**CONSUMER COMMODITY**  
**ORM-D**

**FLAMMABLE LIQUID**  
 3

**FLAMMABLE LIQUID**  
 3

**GASOLINE/FUEL**  
 flammable liquid

**NON-FLAMMABLE GAS**  
 2

**STAY DAMPERS (HOOD, TRUNK & TAILGATE STAYS)**  
 containing non-flammable compressed gas

## What To Order

Our Packaging is tested to Variation 4 and we can manufacture smaller variables without having to re-test.

### Side Rail Airbag Packaging

Part No.	UN Rating	Capacity	Color	Dimensions
COR-H5128865 / COR-H5128866	4G / Y 15.4 / S	33.9 lbs (15.4 kg)	Kraft	92 x 15 ½ x 6
COR-H5128863 / COR-H5128864	4G / Y 15.4 / S	33.9 lbs (15.4 kg)	Kraft	78 x 11 ½ x 6

### Standard Airbag Packaging

Part No.	UN Rating	Capacity	Color	Dimensions
COR-H5128862	4G / Y 9.1 / S	20 lbs (9.1 kg)	Kraft	24 x 12 x 10
COR-H5128861	4G / Y 15.4 / S	20 lbs (9.1 kg)	Kraft	16 x 11 ¼ x 9
COR-H5128860	4G / Y 15.4 / S	20 lbs (9.1 kg)	Kraft	14 x 11 x 7

### Seat Belt Actuator Packaging

Part No.	UN Rating	Capacity	Color	Dimensions
COR-H2129179	4G / Y 4.3 / S	9.4 lbs (4.3 kg)	Kraft	11 x 6 x 4

## Looking For a Custom Packaging Solution?

Dangerous Goods will take your compliance to the next level with our outstanding service, competitive pricing, and top-quality UN-rated packaging.

## Primaries (Metal, Glass, Plastic, Closures)

Dangerous Goods offers a wide variety of options for primary containers and closures. Choose from amber and clear glass bottles, plastic bottles and jugs, and metal inner containers.

Looking for paint cans? See page 22. Looking for f-style cans? See page 24.



### Slip Cover Cans

Description	Dimensions	Lid Part Number	Item #	Qty
Tin Plated Steel Can and Cover	311 x 600	Included	HMS-10810	144
Tin Plated Steel Can and Cover	404 x 808	Included	HMS-10670	84
Tin Plated Steel Can	610 x 1004	HMS-1080L	HMS-10801	378
Tin Plated Steel Cover	—	—	HMS-1080L	200



### Tall Paint Cans

Description	Dimensions	Lid Part Number	Item #	Qty
Tin Plated Steel Can	610 x 1012	HMS-1085L	HMS-10850	378
Tin Plated Steel Cover	—	—	HMS-1085L	360

## Berlin Dangerous Goods Environmental Cleaning Processes

All of our containers are available Cleaned and Certified or Cleaned only. Certificate of Analysis provides a lot and stock number and meets or exceeds specifications.

### Vacuum and Ionization (V and I)

This Berlin Dangerous Goods exclusive process removes contaminants such as loose dirt, carton lint, aerosols, and fine glass particles.

#### V and I Cleaning Process

1. Compressed air passes through a condensate separator and coalescing filter to remove aerosols and fine dust particles
2. Next, the air passes through an absorbent filter to remove gases
3. A vacuum draws the particulate-laden atmosphere out of the container
4. Individually cleaned closures are immediately placed on the container

#### Benefits of V and I

- Extremely cost-effective
- Saves time! No need to waste valuable time rewashing bottles
- Provides a clean final appearance. You will not find any dust particles floating in your samples
- Seals cleanliness into each individual bottle. Since each container is individually cleaned, they will not collect dust, flies, and other debris while stored in your lab
- Odor-free and tasteless. The air inside the bottle will not interfere with your product in any way



#### We Also Offer:

- Ulta Clean
- Super Clean / Cleaned for Oil Analysis
- Cleaned for TOC
- Pre-Preserved Vials

#### Don't See What You Need?

Call 1.800.413.8867 to discuss your individual requirements. We offer many specialized and custom solutions.

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
.50 (15)	20-400	24 x 62	Yes	GLA-00821	576
				GLA-00822	48
1 (30)	24-400	35 x 72	Yes	GLA-00823	280
				GLA-00824	48
2 (60)	28-400	37 x 86	Yes	GLA-00826	240
				GLA-00827	48
4 (120)	33-400	45 x 112	Yes	GLA-00829	120
				GLA-00830	24
8 (240)	43-400	51 x 137	Yes	GLA-00831	84
				GLA-00832	24
16 (480)	48-400	62 x 167	Yes	GLA-00833	40
				GLA-00834	24
32 (960)	58-400	83 x 202	No	GLA-00835	24
				GLA-00836	12
<b>Safety Coated</b>					
4 (120)	33-400	45 x 112	Yes	GLA-09138	120
8 (240)	43-400	51 x 137	Yes	GLA-00941	84
16 (480)	48-400	62 x 167	Yes	GLA-05474	40
32 (960)	58-400	83 x 202	No	GLA-00942	24



#### Clear French Squares

- Provide maximum content visibility
- Design saves on shelf and storage space
- Wide mouth ideal for mixing, storing and sampling
- 32 oz bottles are pressure tested

#### Glass Threaded Vials

Capacity Dram (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
<b>Amber Glass</b>					
.50 (1.85)	8-425	12 x 35	No	GLA-05670	144
1 (4)	13-425	15 x 45	No	GLA-05558	144
2 (7.5)	15-425	17 x 60	No	GLA-00799	144
4 (15)	18-400	20.7 x 70	No	GLA-04874	144
5 (20)	24-400	27.75 x 57	No	GLA-00801	144
10 (40)	24-400	27.75 x 95	No	GLA-00802	72
15 (60)	24-414	27.5 x 140	No	GLA-08773	72
<b>Clear Glass</b>					
.50 (1.85)	8-425	12 x 35	No	GLA-00786	144
1 (4)	13-425	15 x 45	Yes	GLA-00787	144
2 (7.5)	15-425	17 x 60	No	GLA-00788	144
3 (11)	15-425	19 x 65	No	GLA-00789	144
4 (15)	18-400	20.7 x 70	No	GLA-00790	144
5 (20)	24-400	27.25 x 57.5	No	GLA-00791	72
6 (22)	20-400	23 x 85	No	GLA-00792	144
6 (22)	24-400	27.75 x 70	No	GLA-00793	72
8 (30)	22-400	25 x 95	Yes	GLA-00794	144
10 (40)	24-414	27.70 x 95	Yes	GLA-00797	72
10 (40)	24-400	29.25 x 81	Yes	GLA-00798	72
15 (60)	24-400	27.75 x 140	No	GLA-08774	72



\* Approximate dimensions without cap

## Glass Bottles



### Amber Boston Rounds

- Protect contents from UV rays

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
½ (15)	18-400	25 x 68	No	GLA-00884	720
1 (30)	20-400	31 x 79	Yes	GLA-00885	432
2 (60)	20-400	39 x 94	Yes	GLA-00886	288
				GLA-00887	24
4 (120)	22-400	48 x 112	Yes	GLA-00888	128
				GLA-00890	24
8 (240)	24-400	60 x 138	Yes	GLA-00893	108
				GLA-00895	24
16 (480)	28-400	75 x 168	Yes	GLA-00896	60
				GLA-00898	12
32 (960)	33-400	94 x 210	Yes	GLA-00900	30
				GLA-00902	12
<b>Safety Coated</b>					
2 (60)	20-400	39 x 94	Yes	GLA-08639	288
				GLA-09401	24
4 (120)	22-400	48 x 112	Yes	GLA-00951	128
				GLA-00952	108
8 (240)	24-400	60 x 138	Yes	GLA-00953	24
				GLA-00954	60
16 (480)	28-400	75 x 168	Yes	GLA-00955	12
				GLA-00956	30
32 (960)	33-400	94 x 210	Yes	GLA-00957	12



### Clear Boston Rounds

- Offer maximum visibility and sample integrity

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
1 (30)	20-400	31 x 79	No	GLA-00805	432
				GLA-00806	48
2 (60)	20-400	39 x 94	Yes	GLA-00807	288
				GLA-00809	24
4 (120)	22-400	48 x 112	Yes	GLA-00810	160
				GLA-00811	24
8 (240)	24-400	60 x 137	Yes	GLA-00812	108
				GLA-00815	24
16 (480)	28-400	75 x 168	Yes	GLA-00816	60
				GLA-00817	12
32 (960)	33-400	94 x 210	Yes	GLA-09761	30
				GLA-00819	12
<b>Safety Coated</b>					
2 (60)	20-400	39 x 94	Yes	GLA-08948	24
4 (120)	22-400	48 x 112	Yes	GLA-04900	160
				GLA-00935	108
8 (240)	24-400	60 x 137	Yes	GLA-00936	24
				GLA-00937	60
16 (480)	28-400	75 x 168	Yes	GLA-00938	12
				GLA-00939	30
32 (960)	33-400	94 x 210	Yes	GLA-00940	12

\* Approximate dimensions without cap

## Why Use Safety Coated Glass?

- Slip- and impact-resistant
- Prevents splattering and major spillage of contents when dropped
- Protects people and equipment from coming into contact with bottle contents
- Flint and amber glass bottles of all sizes, shapes and neck finishes, from 2oz up to 10L can be coated
- Coating can be applied after screen printing of glass bottles with logos, FDA information, barcodes, advertisements, and other information



Don't like PVC coating? We can also apply PE. Here are some of the benefits/features of each:

#### PE

- Hard powder coating; not removable once applied
- Higher wear/abrasion resistance
- Will not tear

#### PVC

- Clear, soft, removable coating
- FDA compliant material available
- Meets most military specifications
- Less expensive than PE
- Shorter lead times

European (DIN) Finish Bottles

Capacity ml	Style	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
125	Amber Wide Mouth Round	40 Din	55 x 105	No	268558	4,056
500	Amber Wide Mouth Round	60 Din	83 x 171	No	268559	960
1000	Amber Narrow Mouth Round, Treated	45 Din	101 x 224.5	Yes	HMS-34705T	20
1000	Amber Narrow Mouth Square	45 Din	97 x 223	Yes	HMS-34706	24
1000	Amber Wide Mouth Round	60 Din	101 x 211	No	HMS-34821	432
2500	Amber Narrow Mouth Round, Treated	45 Din	140 x 291.8	Yes	HMS-34811T	264
2500	Amber Wide Mouth Round	80 Din	138 x 288	No	262837	220



Pour-Out Finish Bottles

Capacity ml	Style	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
500	Flint Narrow Mouth Round, Treated	38-439	77 x 197	Yes	HMS-62020	24
500	Amber Narrow Mouth Round, Treated	38-439	76 x 196	Yes	317182	24
1000	Amber Boston Round, Treated	38-439	97 x 223	Yes	320606	12
1000	Amber Narrow Mouth Round, Treated	33-430	96 x 217	Yes	GLA-07005	30
1000	Amber Narrow Mouth Round, Treated	33-430	96 x 217	Yes	295433	12
1000	Amber Narrow Mouth Round, Treated	38-439	96 x 223	Yes	320606	12
<b>Safety Coated</b>						
500	Plastic Coated Flint Narrow Mouth Round, Treated	38-439	77 x 197	Yes	HMS-6202A	24
500	Plastic Coated Amber Narrow Mouth Round, Treated	38-439	76 x 196	Yes	GLA-13711	24
1000	Plastic Coated Amber Narrow Mouth Round, Treated	33-430	96 x 217	Yes	GLA-00958	30
					GLA-00959	12
1000	Plastic Coated Amber Narrow Mouth Round, Treated	38-439	96 x 223	Yes	322739	12



Glass Jugs

Capacity ml	Style	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
84 (2.5)	Flint Glass Jug	38-439	137 x 310	Yes	321168	6
84 (2.5)	Amber Glass Jug	38-439	137 x 310	Yes	321199	6
128 (3.785)	Amber Glass Jug	38-400	165 x 304	Yes	GLA-00906	6
135 (4)	Amber Glass Jug	38-439	158 x 341	Yes	GLA-05363	6
135 (4)	Amber Glass Jug	38-439	162 x 345	Yes	315895**	6
135 (4)	Amber Glass Jug	38-439	159 x 340	Yes	GLA-05363	6
<b>Safety Coated</b>						
84 (2.5)	Plastic Coated Flint Glass Jug	38-439	137 x 310	Yes	GLA-00943	6
84 (2.5)	Plastic Coated Amber Glass Jug	38-430	137 x 310	Yes	GLA-08954	6
84 (2.5)	Plastic Coated Amber Glass Jug	38-439	137 x 310	Yes	243863	6
135 (4)	Plastic Coated Amber Glass Jug	38-439	158 x 341	Yes	GLA-09011	6



\*\* Bottle weight 1,750 grams

\* Approximate dimensions without cap

## Glass Bottles



### Amber Wide Mouth Packers

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
.20 (6)	20-400	24 x 44	No	GLA-00909	720
.25 (8)	20-400	25 x 52	No	GLA-00910	912
.33 (10)	20-400	27 x 48	No	GLA-07114	720
.50 (15)	28-400	31 x 50	No	GLA-00911	624
1 (30)	28-400	37 x 65	Yes	GLA-00912	432
				GLA-00913	24
2 (60)	33-400	44 x 75	Yes	GLA-00914	216
				GLA-00916	24
2.5 (75)	38-400	46 x 81	No	GLA-00917	288
4 (120)	38-400	54 x 95	Yes	GLA-00930	180
				GLA-00932	24
5 (150)	45-400	57 x 99	No	GLA-04928	108
8.5 (250)	45-400	65 x 119	Yes	GLA-00919	84
				GLA-00921	24
10 (300)	53-400	68 x 126	No	GLA-00922	96
17 (500)	53-400	81 x 146	Yes	GLA-00923	60
				GLA-00924	12
32 (950)	53-400	99 x 178	Yes	GLA-00926	36
				GLA-00927	12
42 (1,250)	70-400	106 x 191	Yes	GLA-06579	24
				GLA-00929	6
84 (2,500)	70-400	140 x 239	Yes	GLA-05149	12
<b>Safety Coated</b>					
4 (120)	38-400	54 x 95	Yes	GLA-00970	180
8.5 (250)	45-400	65 x 119	Yes	GLA-00964	24
17 (500)	53-400	81 x 146	Yes	GLA-00966	12
32 (950)	53-400	99 x 178	Yes	GLA-00968	12
42 (1,250)	70-400	106 x 191	Yes	GLA-07289	6
84 (2,500)	70-400	140 x 239	Yes	GLA-07053	12



### Clear Standard Wide Mouth

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
4 (120)	48-400	51 x 86	No	GLA-00869	24
8 (240)	58-400	62 x 109	Yes	GLA-00871	24
16 (480)	63-400	79 x 133	Yes	GLA-00875	12
32 (960)	70-400	93 x 180	Yes	261438	12
64 (1,920)	83-400	124 x 214	Yes	GLA-00882	6
128 (3,785)	89-400	157 x 256	No	GLA-00883	4
<b>Safety Coated</b>					
32 (960)	70-400	93 x 180	Yes	262201	12
64 (1,920)	83-400	124 x 214	Yes	GLA-00949	6
128 (3,785)	89-400	157 x 256	No	GLA-00950	4

\*Approximate dimensions without cap





Clear Straight Sided Round

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
1 (30)	43-400	43 x 43	No	GLA-00850	384
				GLA-00851	48
2 (60)	53-400	55 x 49	No	GLA-00853	144
				GLA-00855	24
4 (120)	58-400	60 x 68	No	GLA-00857	24
6 (180)	63-400	65 x 79	No	GLA-00859	24
8 (240)	70-400	73 x 89	No	GLA-00861	24
16 (480)	89-400	91 x 96	No	GLA-00864	12
32 (960)	89-400	95 x 170	No	GLA-00867	12
<b>Safety Coated</b>					
8 (240)	70-400	73 x 89	No	GLA-00946	24
16 (480)	89-400	91 x 96	No	265500	12
32 (960)	89-400	95 x 170	No	268553	12



Clear Graduated Medium Round

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
1 (30)	33-400	34 x 68	No	GLA-00840	432
				GLA-00841	48
2 (60)	38-400	42 x 83	No	GLA-00842	288
				GLA-00843	48
4 (120)	48-400	51 x 102	No	GLA-00844	144
				GLA-00845	24
8 (240)	58-400	62 x 127	Yes	GLA-00846	96
				GLA-00847	24
16 (480)	70-400	16 x 145	Yes	GLA-00848	48
				GLA-00849	24
<b>Safety Coated</b>					
16 (480)	70-400	16 x 145	Yes	GLA-00944	48
				GLA-00945	24

\*Approximate dimensions without cap

DID YOU KNOW?

We Carry an Extensive Line of Pressure-Tested Bottles for Air Shipments.

Approved bottles meet 95 kPa pressure requirements. We can perform pressure testing on your primary containers. Please contact a Dangerous Goods Packaging Consultant if you are unsure whether your inner container meets air requirements.

## Plastic Bottles



Amber PET Packers

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Item #	Qty
2 (60)	33-400	38 x 71	PLA-06566	1,150
4 (120)	38-400	49 x 92	PLA-06567	450
8.5 (250)	45-400	64 x 112	PLA-06569	270
17 (500)	45-400	78 x 135	PLA-06571	140

\* Approximate dimensions without cap



Clear PET Packers








Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Item #	Qty
2 (60)	33-400	38 x 71	PLA-06565	1,150
4 (120)	38-400	49 x 92	PLA-06572	472
4 (120)	38-400	49 x 92	PLA-06792**	450
6.75 (200)	38-400	59 x 109	PLA-06883	335
8 (225)	45-400	60 x 108	214990	335
8.5 (250)	45-400	64 x 112	PLA-06568	300
17 (500)	45-400	78 x 135	PLA-06570	140

\* Approximate dimensions without cap

\*\* Heavy weight bottle

## Plastic Comparison Guide

Selecting the correct resin for your package is important to ensure product compatibility. This chart will help you better understand the properties of various resins available. Need additional assistance? Contact Berlin Dangerous Goods at 1.800.413.8867 for assistance in selecting the perfect package.

Resin Comparison Guide							
Properties	 1 PET Polyethylene Terephthalate	 2 HDPE High Density Polyethylene	 3 PVC Polyvinyl Chloride	 4 LDPE Low Density Polyethylene	 5 PP Polypropylene	 6 PS Polystyrene	 7 OTHER Other Plastics
Clarity	Clear	Translucent	Clear	Translucent	Translucent	Clear	Plastic ID Code "7" is for Other Plastics
Moisture Barrier	Fair to Good	Good to Excellent	Fair	Good	Good to Excellent	Poor to Fair	
Oxygen Barrier	Good	Poor	Good	Poor	Poor	Fair	
Distortion Temperature	145°F	160°F	150°F	160°F	212°F	150°F	
Rigidity	High	Moderate	High	Low	Moderate	High	
Resistance To Impact	Excellent	Excellent	Good	Excellent	Fair	Poor	
Resistance To Cold	Good	Excellent	Fair	Excellent	Poor to Fair	Poor	
Resistance To Sunlight	Good	Fair	Poor to Good	Fair	Fair	Poor to Fair	
Resistance To Acids	Fair	Good	Good	Medium	Good	Medium	
Resistance To Alcohol	Good	Good	Very Good	Good	Good	Fair	
Resistance To Alkalis	Poor	Very Good	Good	Very Good	Very Good	Good	
Resistance To Solvents	Good	Poor	Good	Poor	Poor	Poor	

The information provided above is intended to provide a relative comparison of plastic resins and should only be used as a guide during the selection process. It is not possible to determine if the containers we sell are suitable for your application based solely on the information above. Compatibility testing is, and will always be, the final determining factor in the container selection process. It is the buyer's responsibility to make the final determination as to whether a given container, closure, and accessory is suitable for use in their application.



HDPE



Barrier Plastic

Fluorination protects your product and helps bottles retain their shape

## The Plastic That Performs Like Glass

- Plastic bottle paneling is prevented by a process called fluorination, in which the surface of the container is treated by fluorine gas.
- Fluorination helps ensure product doesn't escape and prevents air from contaminating your product.
- Contact Berlin Dangerous Goods for details.

### Just a few of the chemicals that do well in fluorinated bottles:

- Acetone
- Agrochemicals
- Cleaners and Degreasers
- Electronics chemicals
- Flavors and Fragrances
- Paints and Coatings
- Petroleum and Fuels
- Solvents
- Surfactants

**Plastic Bottles**



Thermo Scientific™ Nalgene™ HDPE Bottles with Polypropylene Caps and Valve Seal Liners



**Natural HDPE  
Wide Mouth Rounds**

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
1 (30)	28-400	37 x 54	Yes	PLA-03313	1,650
2 (60)	33-400	40 x 75	No	PLA-03315	850
				PLA-07047	48
4 (120)	38-400	47 x 95	No	PLA-03325	475
				PLA-07048	48
8 (240)	48-400	61 x 109	No	PLA-10061	250
8.5 (250)	53-400	67 x 102	No	PLA-03317	364
				PLA-07046	48
13.5 (400)	53-400	69 x 134	No	PLA-03318	192
16 (500)	53-400	71 x 152	No	PLA-07247	180
32 (950)	53-400	95 x 180	No	PLA-03321	72
32 (950)	63-400	94 x 178	No	PLA-03309	72
32 (960)	70-400	80 x 225	No	PLA-03310	106
64 (1,920)	100-400	112 x 219	No	PLA-03311	50
68 (2,000)	89-400	124 x 217	No	PLA-03322	50
				PLA-06145	60
128 (3,840)	89-400	155 x 252	No	PLA-03312	4

Capacity oz (ml)	Neck Finish	Dimensions od x h mm*	Pressure Tested	Item #	Qty
<b>Narrow Mouth Bottles</b>					
1 (30)	20-415	34 x 61	No	PLA-03148	1,000
				PLA-03149	72
4 (120)	24-415	51 x 101	Yes	PLA-03152	500
				PLA-03153	72
				PLA-03154	250
8 (240)	24-415	61 x 133	Yes	PLA-03155	72
				PLA-03156	125
16 (480)	28-415	73 x 171	Yes	PLA-03157	48
				PLA-03158	50
32 (960)	38-415	91 x 216	Yes	PLA-03159	24
				PLA-03167	1,000
<b>Wide Mouth Bottles</b>					
1 (30)	28-415	34 x 63	No	PLA-03168	72
				PLA-03169	1,000
2 (60)	28-415	40 x 86	No	PLA-03170	72
				PLA-03171	500
4 (120)	38-415	51 x 100	Yes	PLA-03172	72
				PLA-03173	250
8 (240)	43-415	61 x 131	Yes	PLA-03174	72
				PLA-03175	125
16 (480)	53-415	73 x 186	Yes	PLA-03176	48
				PLA-03177	50
32 (960)	63-415	91 x 199	Yes	PLA-03178	24

\* Approximate dimensions without cap



**High Purity Chemical Packaging**

301792

301794

302430

Capacity	Color	UN Rating	Neck Finish	Dust Cover or Closure	Item #	Minimum Order
6 x 500mL	PPQ Resin White (Natural)	4G / Y 7.5 / S	38-439	Dust Cover	301792	1 Carton
6 x 500mL	PPQ Resin White (Natural)	4G / Y 7.5 / S	45mm	Dust Cover	301797	1 Carton
6 x 1L	PPQ Resin White (Natural)	4G / Y 13.1 / S	38-439	Dust Cover	301794	1 Carton
6 x 1L	PPQ Resin White (Natural)	4G / Y 13.1 / S	45mm	Dust Cover	301793	1 Carton
135oz (4L) x 1	Equistar Resin White (Natural)	4G / Y 21.4 / S 4G / Y 33.8 / S 4G / X 23.2 / S	38-439	Closure	302437	288 Bottles (1 Pallet)
135oz (4L) Bulk	Equistar Resin White (Natural)	4G / Y 21.4 / S 4G / Y 33.8 / S 4G / X 23.2 / S	38-439	Closure	302438	216 Bottles (1 Pallet)
135oz (4L) x 1	PPQ Resin White (Natural)	4G / Y 21.4 / S 4G / Y 33.8 / S 4G / X 23.2 / S	38-439	Closure	302433	288 Bottles (1 Pallet)
135oz (4L) Bulk	PPQ Resin White (Natural)	4G / Y 21.4 / S 4G / Y 33.8 / S 4G / X 23.2 / S	38-439	Closure	302434	216 Bottles (1 Pallet)
135oz (4L) x 1	Equistar Resin Black	4G / Y 21.4 / S 4G / Y 33.8 / S 4G / X 23.2 / S	38-439	Closure	302430	288 Bottles (1 Pallet)
135oz (4L) Bulk	Equistar Resin Black	4G / Y 21.4 / S 4G / Y 33.8 / S 4G / X 23.2 / S	38-439	Closure	302431	216 Bottles (1 Pallet)

\*Closure sold separately. See pages 65-67

## Kautex Exclusive Supplier! A Worldwide Leader in High-Performance Packaging



### Excepted Quantity, Superior Performance

- UN-Rated containers
- Kautex is ISO 9001, ISO 14001, and ISO 18001 certified



### Kautex HDPE Plastic Wide Mouth UN-Rated Leakproof Bottles

- Should be closed with wrench to ensure proper torque. Wrench sold separately.
- Bottle has recessed label panel
- Blue cap = tamper-evident with conical seal
- Red cap = tamper-evident with PE-foam liner

Primary Volume oz (ml)	Neck Finish	Dimensions w x h	UN Rating	Blue Cap Item #	Red Cap Item #	Case Qty
<b>Natural</b>						
3.4 (100)	32mm	1.77" x 3.98"	3H1 / X 0.3 / S	3211B02	3211B12	582
8.5 (250)	45mm	2.32" x 5.10"	3H1 / X 0.8 / S	3211B03	3211B04	273
17 (500)	54mm	3" x 6.4"	3H1 / X 1.5 / S	3211B07	3211B08	124
25 (750)	54mm	3.3" x 7.4"	3H1 / X 2.5 / S	3211B09	3211B10	90
34 (1000)	54mm	3.3" x 8.4"	3H1 / X 2.5 / S	3211B11	3211B22	81
51 (1500)	80mm	4.3" x 8.2"	3H1 / X 4 / S	3211B13	3211B14	42
84 (2500)	80mm	4.8" x 10.2"	3H1 / X 5 / S	3211B15	—	27
135 (4000)	80mm	5.6" x 11.6"	3H1 / X 5.5 / S	3211B17	3211B18	15
<b>White</b>						
3.4 (100)	32mm	1.77" x 3.98"	3H1 / X 0.3 / S	3211B23	3222B01	582
8.5 (250)	45mm	2.32" x 5.10"	3H1 / X 0.8 / S	3211B25	3222B03	273
17 (500)	54mm	3" x 6.4"	3H1 / X 1.5 / S	3211B27	3222B05	124
25 (750)	54mm	3.3" x 7.4"	3H1 / X 2.5 / S	3211B29	3222B07	90
34 (1000)	54mm	3.3" x 8.4"	3H1 / X 2.5 / S	3211B31	3222B09	81
51 (1500)	80mm	4.3" x 8.2"	3H1 / X 4 / S	3211B33	3222B11	42
84 (2500)	80mm	4.8" x 10.2"	3H1 / X 5 / S	3211B35	3222B13	27
135 (4000)	80mm	5.6" x 11.6"	3H1 / X 5.5 / S	3211B37	3222B15	15



### Kautex HDPE Plastic UN-Rated Leakproof Jerry Cans

Primary Volume gal (L)	Neck Finish	Dimensions (w x dp x h)	UN Rating	Item #	Case Qty	Pallet Qty
.52 (2)	45mm	4.3" x 5.7" x 7.7"	—	1248B01	28	560
.66 (2.5)	45mm	6" x 4.5" x 8.2"	3H1 / Y 1.6 / 150	1248B21	25	500
.79 (3)	45mm	4.5" x 6" x 9.4"	3H1 / Y 1.4 / 150	1248B03	25	500
1.3 (5)	45mm	5.7" x 7.5" x 9.1"	3H1 / Y 1.9 / 250	1248B05	16	320
1.3 (5)	50mm	190 x 145	3H1 / Y 1.9 / 250	247964	16	160
1.6 (6)	45mm	7.6" x 5.7" x 11.3"	—	1248B23	10	200
2.5 (9.4)	45mm	153 x 115	3H1 / Y 1.6 / 150	241218	25	300
2.6 (10)	50mm	230 x 190	3H1 / Y 1.9 / 250	1248B07-B	10	100
2.6 (10)	50mm	7.5" x 9.1" x 12.1"	3H1 / Y 1.9 / 250	1248B07	10	200
5.3 (20)	60mm	9.7" x 11.4" x 15.2"	3H1 / Y 1.9 / 250	1248B09	6	120
7.9 (30)	60mm	12.6" x 11.2" x 17.1"	3H1 / Y 1.9 / 250	1248B25	6	120

**Plastic Bottles**



Primary Volume oz (ml)	Neck Finish	Dimensions w x h	UN Rating	Black Cap Item #	Red Cap Item #	Case Qty
<b>Black</b>						
17 (500)	45mm	3" x 6.9"	1H1 / X 1.9 / 250	3233B01	3234B11	120
33 (1000)	45mm	3.7" x 8.3"	3H1 / X 1.9 / 250	3233B03	3234B13	64
84 (2500)	45mm	5.3" x 11.1"	3H1 / X 1.9 / 250	3233B05	3234B15	26
<b>Natural</b>						
17 (500)	45mm	3" x 6.9"	1H1 / X 1.9 / 250	3233B31	3234B21	120
33 (1000)	45mm	3.7" x 8.3"	3H1 / X 1.9 / 250	3233B33	3234B23	64
84 (2500)	45mm	5.3" x 11.1"	3H1 / X 1.9 / 250	3233B35	3234B25	26

**Kautex HDPE Plastic UN-Rated Narrow Neck Leakproof Bottles with Tamper-Evident Blister Cap**

- Should be closed with wrench to ensure proper torque. Wrench sold separately
- Black cap = tamper-evident blister cap
- Red cap = tamper-evident vented blister cap

Primary Volume oz (ml)	Neck Finish	Dimensions w x h	Item #	Case Qty
<b>Natural</b>				
3.4 (100)	32mm	1.8" x 4.3"	3200B31	544
8.5 (250)	32mm	2.4" x 5.4"	3200B33	247
17 (500)	32mm	2.9" x 6.7"	3200B35	122
34 (1000)	32mm	3.3" x 8.7"	3200B37	72
<b>White</b>				
3.4 (100)	32mm	1.8" x 4.3"	3200B01	544
8.5 (250)	32mm	2.4" x 5.4"	3200B03	247



**Kautex HDPE Plastic Square Narrow Mouth Leakproof Bottles with Tamper-Evident Cap**

- Product not UN-rated

**Wide Mouth HDPE Square Bottles**

- Suggested for chemical, pharmaceutical, and cosmetic applications
- Space-saving design
- Wide neck for easy filling
- HDPE construction offers excellent chemical compatibility
- Product not UN-rated



**Blue PP Tamper-Evident Caps for HDPE Square Bottles**

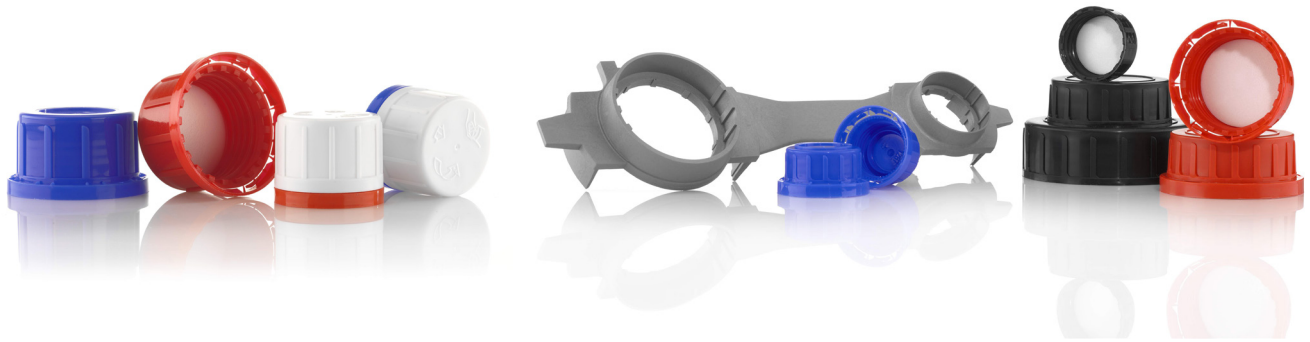
- Integrated tamper evidence ring
- Built-in seal



Primary Volume ml	Neck Finish	Dimensions od x h mm*	Item #	Case Qty
<b>Natural</b>				
50	DIN 28	28 x 83.5	241562	1,200
100	DIN 32	41.8 x 101	241563	595
250	DIN 45	56.8 x 129	241565	280
500	DIN 54	66.8 x 163	241566	150
1,000	DIN 54	66.8 x 211	241567	80
2,500	DIN 80	93.2 x 262.5	241568	36
5,000	DIN 80	93.2 x 323	241569	15
<b>White</b>				
100	DIN 32	41.8 x 101	248879	595
250	DIN 45	56.8 x 129	248880	280
500	DIN 54	66.8 x 163	248881	150
1,000	DIN 54	66.8 x 211	248882	80
2,500	DIN 80	93.2 x 262.5	248883	36
5,000	DIN 80	93.2 x 323	248884	15

Neck Finish	Item #	Case Qty
DIN 28	241718	2,500
DIN 32	241589	100
DIN 32	241721	1,800
DIN 45	241724	800
DIN 45	226150	800
DIN 50	235649	Ea.
DIN 54	241588	100
DIN 54	241723	550
DIN 80	241590	100
DIN 80	241720	210

\* Approximate dimensions without cap



**Kautex Cap Wrench**

Color	Inserted Neck Finish	Item #	Case Qty
Grey	32 - 80mm	278058	2
Black	50 + 60mm	293341	2

**Kautex Black HDPE Tamper-Evident Cap**

Neck Finish	Item #	Case Qty
45mm	303092	100

**Kautex Red Foam Lined Tamper-Evident Closure**

Neck Finish	Item #	Case Qty
88mm	224192	210

**Kautex Black Tamper-Evident Cap with TE Liner**

Neck Finish	Item #	Case Qty
45mm	9100C15	450

**Kautex Natural LDPE Leakproof Linerless Continuous Thread Cap**

Neck Finish	Item #	Case Qty
40mm	9100C01	2000

**Kautex Red Polypropylene Tamper-Evident Cap**

Neck Finish	Item #	Case Qty
32mm	83761	1800

**Kautex Tamper-Evident Closure with Conical Seal & Gas Vent**

Neck Finish	Item #	Case Qty
32mm	246061	900

Kautex Wide Mouth HDPE Square Bottles

Primary Volume oz (ml)	Neck Finish	Dimensions w x h	Item #	Case Qty
Natural				
34 (1000)	40mm	67.5 x 128	3611B09-B	231



Kautex HDPE Plastic Square Wide Mouth Bottles

Primary Volume oz (ml)	Neck Finish	Dimensions w x h	UN Rating	Item #	Case Qty
Natural					
33 (1000)	32mm	85 x 85	—	3200B37-B	72
White					
3 (88)	32mm	45 x 45	3H1 / X 0.3 / S	3211B23	582
17 (500)	45mm	75 x 75	3H1 / X 1.5 / S	3211B27-B	124
50 (1479)	80mm	108 x 108	3H1 / X 4 / S	3211B33-B	42



Kautex HDPE Plastic Square Narrow Mouth Leakproof Bottles

Primary Volume oz (ml)	Neck Finish	Dimensions w x h	UN Rating	Item #	Case Qty
Natural					
34 (1000)	45mm	96 x 96	3H1 / X 1.9 / 250	3233B33-B	64



## Closure Technical Information

- **F217 and PTFE Lined Caps** – These caps feature liners that resist attack from virtually all chemicals at room temperature. The F217 & PTFE liner system provides a tight seal with a low moisture transmission rate.
- **Pulp/Vinyl Lined Caps** – Phenolic caps with pulp/vinyl liners are perfect for general use. The liner is made of a vinyl coating applied to HDPE-coated paper and then laminated to pulpboard.
- **Polycone Lined Caps** – Polycone caps form an exceptionally tight seal and offer a good chemical barrier. This liner molds itself around the sealing areas of the finish as the cap is screwed on, minimizing leakage, evaporation, contamination binding, and backing off.
- **Rubber Lined Caps** – Black phenolic caps with rubber liners are autoclavable. This liner is FDA approved and offers excellent properties of resilience, resistance to moisture vapor and relatively low gas transmission.
- **030" Thick Solid Polyethylene Lined Caps** – Caps with solid PE liners offer good chemical resistance and a low moisture vapor transmission rate and are great for higher concentration acids and alkalis. Good for non-oil products filled at room temperature. Because this lining system is paperless, your samples will not be contaminated with fiber or paper particles from the closure.
- **Aluminum Foil Lined Caps** – These caps are typically used for food applications as they will not cause odor or taste problems. They can also be used for non-acid and non-alkaline products.
- **Unlined Caps** – Unlined polypropylene closures are available in white or black. These caps are autoclavable and are suitable for many dry products.





**38-439 Tamper-Evident Cap**

- Deeper neck skirt provides more protection against back-off
- Durable polypropylene design
- Multiple colors available
- Tamper-evident band
- Works with a 38-439 neck finish
- Chemically resistant liners included
- Low minimum order quantities
- Ribbed cap to make it more compatible for torque wrenches
- **Custom colors available at low minimum quantities**



Neck Finish	Style	Material	Color	Item #
<b>Flat Deck PTFE Liner</b>				
38-439	Ribbed	Polypropylene	Black	HMS-36900T
<b>Flat Deck Foam Liner</b>				
38-439	Ribbed	Polypropylene	Black	HMS-36900F
38-439	Ribbed	Polypropylene	White	HMS-36900WT
38-439	Ribbed	Polypropylene	Blue	HMS-36900BL
38-439	Ribbed	Polypropylene	Red	HMS-36900RD
38-439	Ribbed	Polypropylene	Yellow	HMS-36900YW
38-439	Ribbed	Polypropylene	Green	HMS-36900GN
38-439	Ribbed	Polypropylene	Brown	HMS-36900BR





**Thermoset Closures**

- Thermoset closures are known for providing the widest range of chemical compatibility as well as being temperature resistant
- Provide the most consistent adherence to close dimensional tolerances

Neck Finish	A Pulp/Polyvinyl	B Solid Polyethylene	C Polyseal Cone	D White Rubber	E Pulp/Aluminum Foil	F Green Phenolic® F217 / PTFE	G Black Phenolic F217 / PTFE
8-425	CAP-00101	—	—	—	—	272499	—
13-425	CAP-00109	—	CAP-00107	CAP-00468	CAP-00106	272487	—
15-425	CAP-00123	—	CAP-00121	CAP-00470	CAP-00120	272490	—
18-400	CAP-00134	—	CAP-00132	CAP-00472	279323	272491	—
20-400	CAP-00147	—	CAP-00143	CAP-00474	279324	272492	CAP-00145
22-400	CAP-00159	—	CAP-00154	CAP-00476	CAP-00156	272493	CAP-00155
24-400	CAP-00175	—	CAP-00170	CAP-00480	CAP-00172	272494	CAP-00171
24-410	CAP-00186	—	CAP-00185	—	—	—	—
28-400	CAP-00194	—	CAP-00190	CAP-00486	279325	272495	CAP-00191
33-400	CAP-00209	CAP-00207	CAP-00204	CAP-00488	CAP-00206	272496	CAP-00205
33-430	—	—	—	—	—	—	CAP-00222
38-400	CAP-00230	CAP-00228	CAP-00224	CAP-00490	CAP-00227	272497	CAP-00226
38-430	—	—	CAP-08616	—	—	—	253295
38-439	—	—	—	—	—	—	CAP-07459
43-400	CAP-00245	CAP-00243	—	CAP-00492	CAP-00242	CAP-00065	—
45-400	CAP-00255	260206	—	—	—	CAP-00067	CAP-00254
48-400	CAP-00263	CAP-00260	—	CAP-05781	CAP-00259	CAP-00069	—
53-400	CAP-00277	CAP-00274	—	—	CAP-00273	CAP-00072	CAP-00276
58-400	CAP-00289	CAP-00286	—	—	CAP-00285	CAP-00074	—
63-400	CAP-00300	CAP-00298	—	—	CAP-00297	CAP-00076	—
70-400	CAP-00311	CAP-00308	—	—	CAP-00307	CAP-00078	CAP-00310
83-400	CAP-00082	CAP-00081	—	—	—	CAP-00060	—
89-400	CAP-00089	CAP-00087	—	—	CAP-00086	CAP-00062	264300

**Visit Our Online Resource Center for Everything ☑**

- Ask an expert
- DG Dialogue blog
- Glossary of terms
- Regulatory news
- Regulation overview
- White papers





**Polypropylene Closures**

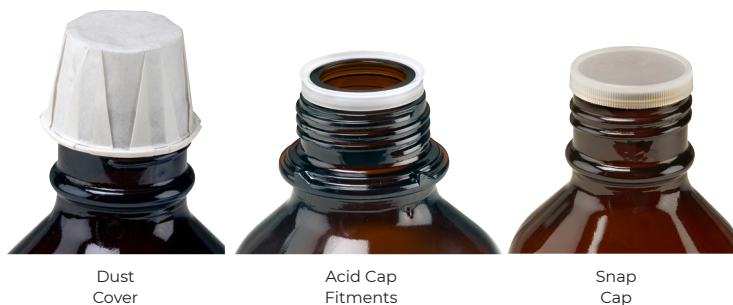
- Polypropylene closures are known for good impact strength, cost effectiveness, and pliability

Neck Finish	A White PP F217 PTFE	B Black PP Linerless	C .015 PTFE Disc	D White PP with F217	E White PP with F422	F Black PP with F422	G White PP Linerless
15-425	262535	—	—	—	—	—	—
18-400	262890	—	—	—	—	—	—
20-400	239071	—	—	—	—	—	—
20-410	—	—	—	CAP-05785	—	—	—
22-400	239075	CAP-00332	—	—	—	—	—
24-400	239077	CAP-00334	CAP-00516	CAP-11207	—	—	—
24-410	—	—	—	CAP-00340	—	—	—
28-400	239080	CAP-00346	CAP-00516	CAP-00347	—	—	—
28-410	—	—	—	CAP-00353	—	—	—
33-400	239081	CAP-00357	—	CAP-00359	—	—	CAP-00356
38-439	—	CPD-09922	—	—	CAP-00379	CAP-06889	—
38-400	239082	CAP-00367	CAP-00525	CAP-00369	—	—	CAP-00366
38-430	—	CAP-00378	—	—	—	—	—
43-400	239083	CAP-00381	—	CAP-00382	—	—	CAP-00380
45-400	239084	CAP-00384	—	CAP-05019	—	—	—
48-400	239085	CAP-00388	CAP-00531	CAP-00389	—	—	CAP-00387
53-400	239086	CAP-00394	CAP-00533	CAP-00395	—	—	CAP-00393
58-400	239087	CAP-00399	CAP-00535	CAP-00400	—	—	CAP-00398
63-400	239088	CAP-00404	CAP-00538	CAP-00405	—	—	CAP-00403
70-400	239089	CAP-00410	CAP-00541	CAP-00411	—	—	CAP-05088
83-400	239355	CAP-00319	CAP-00506	—	—	—	—
89-400	239090	CAP-00323	CAP-00576	CAP-00324	—	—	CAP-00322
110-400	—	CAP-12382	—	CPD-03809	—	—	CPD-03812
120-400	—	—	—	CAP-00327	—	—	CAP-00326

**Bottle Fitments**

- Shield materials from dirt, dust, moisture, insects and other contaminants during and in-between production
- Dangerous Goods can apply dust covers and snap caps during assembly, upon request

Description	Neck Finish	Item #
Paper Dust Cover	38mm	HMS-96200
LDPE Acid Cap Fitments	38-439	HMS-93200
LDPE Snap Cap	38-439	CAP-05851





**Kraft Blank Cartons**

- For the shipment of non-hazardous materials
- Ideal for overpack cartons
- We offer a wide variety of custom and stock solutions
- **Don't see what you need? Our in-house Packaging Engineer can design, test, and manufacture your custom solution.**

Carton Strength	Inner Dimensions	Item #
200 # Single Wall	13 5/16" x 13 5/8" x 10 3/16"	COR-J219X51B2
150 # Single Wall	17 1/2" x 10 3/8" x 11 7/8"	COR-JE1969202
200 # Single Wall	17 3/4" x 14 3/4" x 26"	COR-J21968752
150 # Single Wall	19 1/8" x 12 3/4" x 20 1/2"	COR-JE1969072
200 # Single Wall	19 1/4" x 11 1/2" x 14 1/4"	COR-J21968742
200 # Single Wall	19 1/2" x 9 7/8" x 20"	COR-J219X65B2
200 # Single Wall	20" x 13 1/8" x 20 1/4"	COR-J219606A2
150 # Single Wall	22" x 11" x 23 1/4"	COR-J219X63R2
200 # Single Wall	22" x 22" x 18 3/4"	COR-J219X64R2
200 # Single Wall	22 1/8" x 14 3/4" x 24"	COR-J21961402
125 # Single Wall	23 3/8" x 11 7/8" x 32"	COR-J21960042
200 # Single Wall	24 1/4" x 12 1/8" x 28 1/2"	COR-J219X75R2
125 # Single Wall	25" x 18 3/8" x 10 1/8"	COR-JC1969001
200 # Single Wall	35 3/8" x 17 5/8" x 20 1/2"	COR-J219X9052

## Application Torque

- Berlin Packaging accepts no responsibility for the accuracy of this data or for any consequences resulting from its use
- Torque will be determined by the person/company that tests the UN package. As per both 49 CFR §178.2 and IATA §6.0.1.4, the manufacturer of a UN-rated package must provide complete assembly instructions, including any torque requirements, for correct use of the UN-rated package. It then becomes the shipper's responsibility to follow the assembly instructions, including all tested components, which may include torque requirements, for the correct use of the UN package.

If you have any questions about your inner packaging's torque requirements, contact a Dangerous Goods Packaging Consultant. For the most up-to-date application torque specifications visit: [BerlinDangerousGoods.com/torque](http://BerlinDangerousGoods.com/torque)

	Phenolic Closures with Glass Container	Polypropylene Closures with Glass Container	Polypropylene Closures with Plastic Container
Cap (mm)	Application Torque (inch lbs)	Application Torque (inch lbs)	Application Torque (inch lbs)
22	12	12	12
24	15	15	15
24-415	15	15	12
28	15	15	15
33	18	18	18
38-400	20	20	30
38-415	20	20	20
38-430	45	45	20
38-439	45	45	25
43	20	30	22
45	30	40	25
48	30	45	25
53	30	30	30
58	30	45	30
63	30	50	30
70	40	60	35
83	60	60	35
89	70	70	40

Recommended Torque for Closures Applied to Glass and Plastic Containers

## Accessories

Berlin Dangerous Goods offers an extensive assortment of shipping accessories to facilitate the safe transport of your goods, including: absorbents, pressure bags, custom tape strips, and more.



### Absorbent Materials

- Wide variety of styles to meet many different needs
- We can customize any package to include absorbent



Desiccant Absorbent Laminate Sheets



Polypropylene Absorbent Pads



White Polypropylene Pillows



Polypropylene Absorbent Pouches

Dimensions	Color	Material	Absorbency	Item #	Qty
<b>Pillow</b>					
8 ½" x 10"	Gray	Polypropylene	43.5oz (1.3L)	HMS-81185	100
<b>Blanket</b>					
10" x 17"	Gray	Polypropylene	87oz (2.6L)	HMS-81184	50
<b>Loose</b>					
Grade 2 - Fine Granules	—	Vermiculite	2 - 3 Times Weight	HMD-89020	4 cu. ft
Grade 3 - Coarse Granules	—	Vermiculite	2 - 3 Times Weight	HMS-89000	4 cu. ft
<b>Sheets</b>					
4" x 4 ½"	White	Desiccant	5.5oz (163mL)	HMS-81174	400
8" x 9"	White	Desiccant	22oz (653mL)	HMS-81173	1,000
17" x 19"	Gray	Polypropylene	36oz (1.1L)	HMS-81176	100
2" x 5"	Yellow	Polypropylene	0.85oz (25mL)	HMS-8118P1	3,840
6" x 6"	Yellow	Polypropylene	4oz (120mL)	HMS-8118C	1,200
6" x 12"	Yellow	Polypropylene	7oz (207mL)	HMS-8118E	620
12" x 12"	Yellow	Polypropylene	14oz (414mL)	HMS-81171	200
5" x 33"	Yellow	Polypropylene	16 oz (473mL)	HMS-8118P	240
<b>Pouch</b>					
5" x 7"	Yellow	Polypropylene Sheet	4oz (120mL)	HMS-81189A	100
8" x 16"	Gray	Ground Polypropylene	8oz (240mL)	HMS-81187	90
10" x 27"	Gray	Ground Polypropylene	33oz (1L)	HMS-81186	65
14" x 21"	Gray	Ground Polypropylene	135oz (4L)	HMS-81156	30

## Accessories

### Bubble Wrap

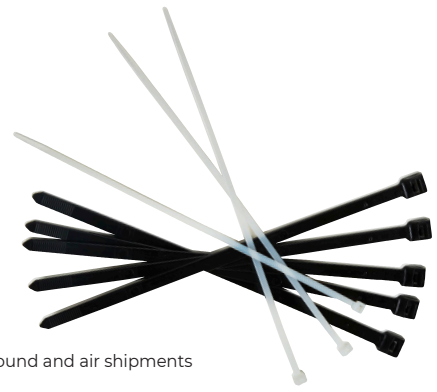
- Provides extra cushioning and protection
- Excellent to fill void space



Style	Dimensions	Item #
5 Pocket Vial Separator	13" x 6-1/4"	HMS-81120A
3/16" Bubble Wrap Sheet	12" x 12"	HMS-81110

### Closing Ties

- Helps secure bags for ground and air shipments



Style	Color	Material	Dimensions	Item #
Cable	Natural	Nylon	5 3/4"	HMS-8133A
Cable	Natural	Nylon	8"	HMS-81330
Cable	Black	Polypropylene	8"	HMS-81332
Twist	White	Double Wire Plastic	8" x 3/8"	HMS-8133E



### Closing Tape Strips

- Perfect for assembly lines
- Able to make any size needed

Style	Used For	Material	Dimensions	Item #
Peel Off Strip Tape	Caps	—	1" x 10"	HMS-96040
Peel Off Strip Tape	Cartons	3M #375	2" x 11"	HMS-9605D
Peel Off Strip Tape	Cartons	3M #375	2" x 18"	HMS-9605K
Peel Off Strip Tape	Cartons	3M #375	2" x 24"	HMS-9605L
Peel Off Strip Tape	Cartons	3M #375	3" x 18"	HMS-9605B
Peel Off Strip Tape	Cartons	3M #375	3" x 30"	HMS-9605T
Roll of Tape	Cartons	3M #375	2" Width	HMS-9605H
Roll of Tape	Cartons	3M #375	3" Width	HMS-9605A

## Success Stories

Berlin Dangerous Goods' mission is to help you become more efficient, effective, and profitable. Dangerous Goods will take your compliance to the next level with our outstanding service, competitive pricing, and top-quality UN-rated and temperature-controlled packaging.

**Opportunity:** A pharma company shipping thousands of temperature sensitive packages to its U.S. labs.

### Challenges:

- Packages didn't work with lab robotics
- Too much time spent managing and testing packages
- Not enough space for packaging inventory

### Solution:

**We reduced their costs by over \$1 million per year through:**

- Custom-designed vial trays to fit their robotics
- A centralized return program for refurbishing packaging
- A just-in-time packaging inventory program



### Ready to take the next step?

Our team has 70+ years of combined experience in the UN-rated and temperature controlled packaging industry. We can assist you in managing the regulatory process.

Call 1.800.413.8867 or visit [BerlinDangerousGoods.com](http://BerlinDangerousGoods.com).



Biohazard Marking

Plain



Clear Open End

**95 kPa Pressure Bags**

- Provides tamper-evident seal
- Meets pressure requirements for air transport

Usable Area	Total Area	Item #	Qty
<b>Biohazard Marking</b>			
4 1/4" x 6 1/8"	8 1/4" x 5 1/4"	HMS-81821	500
6" x 9 1/8"	7" x 11 1/2"	HMS-81824	700
10 1/4" x 14"	11 1/2" x 16 1/2"	HMS-81825	250
13 1/4" x 17 7/8"	14 1/4" x 21 1/2"	HMS-81827	100
<b>Plain</b>			
6" x 9 1/8"	7" x 11 1/2"	HMS-81822	700
10 1/4" x 14"	11 1/2" x 16 1/2"	HMS-81823	250
13 1/4" x 17 7/8"	14 1/4" x 21 1/2"	HMS-81826	100

**LDPE Bags**

- May be required for air transport
- Wide variety of styles and sizes to meet many different needs

Dimensions	Mil Thickness	Item #
<b>Gusseted</b>		
8" x 4" x 26"	2	HMS-81138
8" x 6" x 20"	2	HMS-81661
10" x 8" x 15"	2	HMS-82710
10" x 8" x 26"	2	HMS-81759
10" x 9" x 21"	3	HMS-8110E
12" x 8" x 24"	2	HMS-8115C
12" x 9" x 29"	2	HMS-8113A
15" x 13" x 36"	4	HMS-8101Y
20" x 14" x 43"	2	HMS-81063
21" x 9" x 28"	2	HMS-81788
22 1/2" x 13 1/2" x 33"	3	HMS-8110F
29" x 25" x 34"	2	HMS-8110G
<b>Open End</b>		
4 1/2" x 17"	4	HMS-81968
5" x 14"	4	HMS-81135
7" x 9"	2	HMS-81660
7" x 12 1/2"	2	HMS-81505
7" x 24"	4	HMS-8112R
8" x 12"	1.25	HMS-8112S
8" x 13"	2	HMS-81716
13" x 20"	4	HMS-81140
13" x 30"	4	HMS-81100
18" x 23"	4	HMS-81020
18" x 29"	3	HMS-81060
20" x 31"	3	HMS-81061
24" x 36"	4	HMS-8E24E

**DID YOU KNOW?**

Absorbent or bags may be required for air shipments. Consult The International Air Transport Association (IATA), Dangerous Goods Regulations or contact a Packaging Consultant. We can walk you through the regulatory process with our more than 70+ years of combined experience in the industry.

**Complimentary Packaging Wellness Check**

Every company is under pressure to do more with less; however, with packaging for hazardous materials and temperature controlled materials, cutting back in the wrong areas could lead to product loss, serious incidents, fines, and/or lost market share.

**Tailored Analysis. Strategic Solutions.**

Our packaging wellness check can help identify savings and process improvements in areas including:

- Packaging design and cost
- Packaging assembly and closure
- Shipping and storage costs
- Quality control and checks
- Waste reduction
- Document management

Request a Packaging Wellness Check today. Call 800.413.8867 or visit [BerlinDangerousGoods.com/pwc](http://BerlinDangerousGoods.com/pwc).



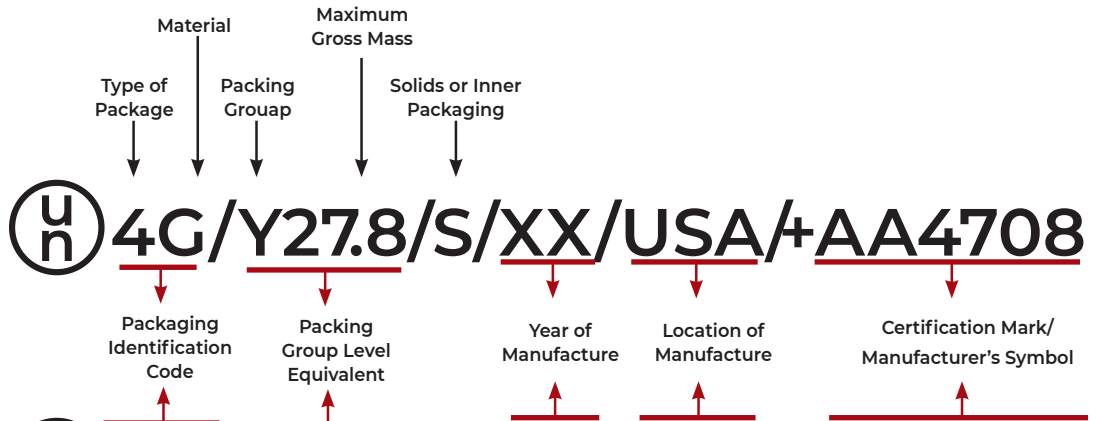
## UN Markings Guide

It is important to select the correct UN-rated packaging for dangerous goods. The marking that is applied to a UN package indicates the type of package and the levels to which the packaging has been approved. The following describes the sequence of numbers and letters that appear in a UN marking and what they designate.



### Combination Packaging or Single Packaging For Solid Hazardous Materials

Example of UN Marking for hazardous materials in combination packaging or solid hazardous materials in single packaging.



### Liquid Hazardous Materials

Example of UN Marking for Liquid Hazardous Materials in single or composite packaging.



### How To Read UN Markings

#### Type Of Package

1 - Drums	3 - Jerrycans	5 - Bags
2 - Barrels	4 - Boxes	6 - Composite Packagings

#### Material

A - Steel	F - Reconstituted Wood	M - Paper, Multiwall
B - Aluminum	G - Fiberboard	N - Metal other than Steel or Aluminum
C - Natural Wood	H - Plastic	
D - Plywood	L - Textile	

#### Category

1 - Closed Head	2 - Open Head
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#### Packaging Group

X - Packaging Groups I, II, and III	Y - Packaging Groups II and III	Z - Packaging Groups III Only
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#### Solids or Inner Packaging

**Solids** - An "S" in upper case should follow the maximum gross mass.

**Liquids** - Liquids should reflect the Hydrostatic test pressure in kPa (kilopascals), rounded down to the nearest 0.1 kPa.

#### Maximum Gross Mass or Specific Gravity

**Maximum Gross Mass** - Solids or packagings that have inner packagings must be marked with maximum gross mass (weight) in kilograms.

**Specific Gravity** - Stand alone packagings intended to contain liquids must be marked with the specific gravity rounded down to the first decimal.

#### Year of Manufacture

The last two digits of the year to indicate year of manufacture. Ex. 18 for 2018.

#### Location of Manufacturer

Country where the item was manufactured.

#### Manufacturer Code

Code for UN certifying agency of manufacturer.



## Packing Groups

The UN assigns a packing group classifying the regulated material further by the amount of risk each material poses during transportation. The packing group also determines the degree of protective packaging required.

### Packing Group I - Great Danger

- Shown as X in the UN marking on the package.



### Packing Group II - Medium Danger

- Shown as Y in the UN marking on the package.



### Packing Group III - Least Danger

- Shown as Z in the UN marking on the package.



## Hazard Classes

Dangerous goods are divided into nine classes (in addition to several subcategories) on the basis of the specific chemical characteristics producing the risk.

### Anyone Offering A Hazardous Material for Shipment Must:

- Properly identify and classify all hazardous materials related to the shipment
- Determine which of the nine hazard classes characterizes the hazards associated with the material
- Assign each material to a packing group if applicable

### Nine Classes of Hazardous Materials

**Class 1: Explosives**  
Divisions: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6



**Class 2: Gases**  
Divisions: 2.1, 2.2, 2.3



**Class 3: Flammable Liquid and Combustible Liquid**



**Class 4: Flammable Solid and Spontaneously Combustible and Dangerous When Wet**  
Divisions: 4.1, 4.2, 4.3



**Class 5: Oxidizer and Organic Peroxide**



**Class 6: Poison (Toxic) and Poison Inhalation Hazard**  
Divisions: 6.1, 6.2



**Class 7: Radioactive**



**Class 8: Corrosive**



**Class 9: Miscellaneous**



Simplify UN Packaging with Dangerous Good's Hazardous Materials and UN Marketing Guide Poster. This poster provides a quick reference to the nine classes of hazardous materials as well as a clarification of the UN Markings Guide. Visit [BerlinDangerousGoods.com/ContactUs](http://BerlinDangerousGoods.com/ContactUs) to request one of our Hazardous Materials Posters.



## Regulatory Resources

Please refer to the following link to access the relevant citation in the 49 CFR.

### § 171.8 Definitions and abbreviations.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-171/subpart-A/section-171.8>

### § 172.700 Purpose and scope.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-172/subpart-H/section-172.700>

### § 172.800 Purpose and applicability

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-172/subpart-I/section-172.800>

### § 173.199 Category B infectious substances.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-E/section-173.199>

### § 173.22 Shipper's responsibility.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-B/section-173.22>

### § 173.226 Materials poisonous by inhalation, Division 6.1, Packing Group I, Hazard Zone A.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-E/section-173.226>

### § 173.227 Materials poisonous by inhalation, Division 6.1, Packing Group I, Hazard Zone B.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-E/section-173.227>

### § 173.24 General requirements for packagings and packages.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-B/section-173.24>

### § 173.4a Excepted quantities.

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-A/section-173.4a>

### § 173.28 Reuse, reconditioning and remanufacture of packagings

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-173/subpart-B/section-173.28>

### §178.601(g)(1)

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-178/subpart-M/section-178.601>

### §178.601(g)(2)

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-178/subpart-M/section-178.601>

### § 178.503 Marking of packagings

<https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-178/subpart-L/section-178.503>

### IATA Packaging Instruction 650

<https://www.iata.org/contentassets/b08040a138dc4442a4f066e6fb99fe2a/dgr-62-en-pi650.pdf>



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