

2020 LITHIUM BATTERY SHIPPING GUIDE



JANUARY 14, 2020

The following guide provides a summary of marking, labeling and paperwork requirements for shipping lithium batteries via domestic US ground (49 CFR 171-180 in effect 1-Jan-2020), international air (2020 IATA DGR, 61st Edition) and international vessel (IMDG, 39-18). Refer to the regulatory citations provided, country specific regulations and/or operator variations for complete requirements. Employees who perform any pre-transportation functions must have current training certificates. Also see: <u>DISCLAIMER</u>

This guide will be updated as lithium battery regulations change. Please check <u>www.hazmateam.com</u> for the most current version of this document.

TO GET STARTED, CLICK ON THE HOME ICON:





IS MY LITHIUM CELL OR BATTERY UN TESTED?

WHAT SIZE IS MY LITHIUM ION (RECHARGEABLE)

<u>CELL/BATTERY?</u>

SMALL LITHIUM ION CELL/BATTERY REQUIREMENTS

MEDIUM LITHIUM ION CELL/BATTERY

REQUIREMENTS

FULLY REGULATED LITHIUM ION CELL/BATTERY REQUIREMENTS

DAMAGED OR DEFECTIVE LITHIUM ION CELL/BATTERY REQUIREMENTS <u>WHAT SIZE IS MY LITHIUM</u> <u>METAL (NON-RECHARGEABLE)</u> <u>CELL/BATTERY?</u>

SMALL LITHIUM METAL CELL/BATTERY REQUIREMENTS

MEDIUM LITHIUM METAL CELL/BATTERY REQUIREMENTS

FULLY REGULATED LITHIUM METAL CELL/BATTERY REQUIREMENTS

DAMAGED OR DEFECTIVE LITHIUM METAL CELL/BATTERY REQUIREMENTS

IS MY LITHIUM CELL OR BATTERY UN TESTED?

IMPORTANT CLASSIFICATION REQUIREMENT

Except for prototype batteries, each lithium cell or battery (small, medium or fully regulated) must be of the type proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria. Lithium cells and batteries are subject to these tests regardless of whether the cells used to construct the battery are of a tested type. <u>Refer to 49 CFR 173.185 (a)</u>

Lithium battery test summary – effective 1 January 2020, manufacturers and subsequent distributors of cells or batteries and equipment powered by cells and batteries manufactured after 30 June 2003 must make available the test summary as specified in the UN Manual of Tests and Criteria, Revision 6 and amend. 1, Part III, sub-section 38.3, paragraph 38.3.5.

For prototypes see <u>49 CFR 173.185 (e)</u>. Prototype batteries must be shipped fully regulated.

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LITHIUM ION CELL & BATTERY SIZE DEFINITIONS

(Lithium Ion Cells and Batteries are Rechargeable; Also called "secondary" batteries)

SIZE & TYPE		VESSEL TRANSPORT	DOMESTIC USA GROUND TRANSPORT
	MAXIMUM WATT HOUR RATING	MAXIMUM WATT HOUR RATING	MAXIMUM WATT HOUR RATING
SMALL CELL	20 WH	20 WH	20 WH
SMALL BATTERY	100 WH	100 WH	100 WH
MEDIUM CELL	Not applicable to air transport	Not applicable to vessel transport	60 WH
MEDIUM BATTERY	Not applicable to air transport	Not applicable to vessel transport	300 WH
FULLY REGULATED CELL	> 20 WH	> 20 WH	> 60 WH
FULLY REGULATED BATTERY	> 100 WH	> 100 WH	> 300 WH

"Hybrid" Batteries: containing both lithium ion cells and lithium metal cells must be shipped as UN 3090 or UN 3091, as appropriate. See Lithium Metal Cell & Battery Size Definitions.

Prototype Cells and Batteries (not UN tested): must be shipped Fully Regulated regardless of watt hour rating of battery/cell.

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LITHIUM METAL CELL & BATTERY SIZE DEFINITIONS

SIZE & TYPE		VESSEL TRANSPORT	DOMESTIC USA GROUND TRANSPORT
	MAXIMUM AGGREGATE LITHIUM CONTENT ²	MAXIMUM AGGREGATE LITHIUM CONTENT ²	MAXIMUM AGGREGATE LITHIUM CONTENT ²
SMALL CELL	1 GRAM	1 GRAM	1 GRAM
SMALL BATTERY	2 GRAMS ¹	2 GRAMS ¹	2 GRAMS ¹
MEDIUM CELL	Not applicable to air transport	Not applicable to vessel transport	5 GRAMS
MEDIUM BATTERY	Not applicable to air transport	Not applicable to vessel transport	25 GRAMS
FULLY REGULATED CELL	>1 GRAM	> 1 GRAM	> 5 GRAMS
FULLY REGULATED BATTERY	> 2 GRAMS	> 2 GRAMS	> 25 GRAMS

(Lithium Metal Cells and Batteries are Non-Rechargeable; Also called "primary" batteries)

"Hybrid" Batteries: containing both lithium ion cells and lithium metal cells must be shipped as UN 3090 or UN 3091, as appropriate. Note 1 - A small "hybrid" battery may not contain more than 1.5 g of lithium metal contained within all lithium metal cells and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh. "Hybrid" batteries are not externally charged.

Prototype Cells and Batteries (not UN tested): must be shipped Fully Regulated regardless of lithium metal content per battery/cell.

Note 2 - **Aggregate lithium content:** the sum of the grams of lithium content contained by the cells comprising a battery.

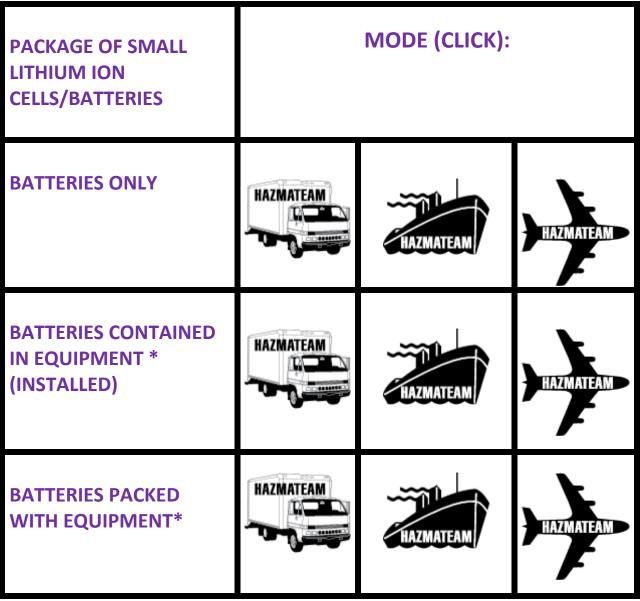
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SMALL LITHIUM ION

CELL/BATTERY

REQUIREMENTS



• Equipment means the device or apparatus for which the lithium cells or batteries will provide electrical power for its operation

NAVIGATE (CLICK):



WHAT SIZE IS MY LITHIUM ION (RECHARGEABLE) CELL/BATTERY?

MEDIUM¹ LITHIUM ION

CELL/BATTERY

REQUIREMENTS

PACKAGE OF MEDIUM LITHIUM ION CELLS/BATTERIES	MODE (CLICK):
BATTERIES ONLY	HAZMATEAM
BATTERIES CONTAINED IN EQUIPMENT ² (INSTALLED)	HAZMATEAM
BATTERIES PACKED WITH EQUIPMENT ²	HAZMATEAM

*NOTES:

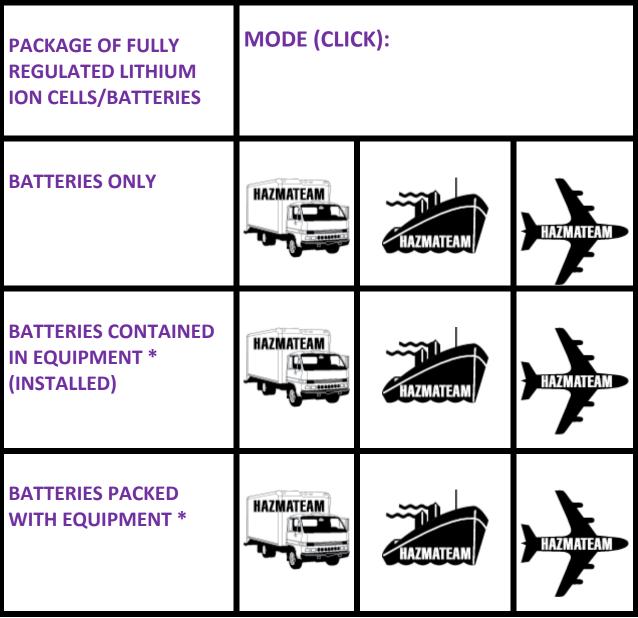
1) MEDIUM BATTERIES IS A DESIGNATION FOR GROUND DOMESTIC USA ONLY

2) Equipment means the device or apparatus for which the lithium cells or batteries will provide electrical power for its operation

NAVIGATE (CLICK):



WHAT SIZE IS MY LITHIUM ION (RECHARGEABLE) CELL/BATTERY? FULLY REGULATED LITHIUM ION CELL/BATTERY REQUIREMENTS



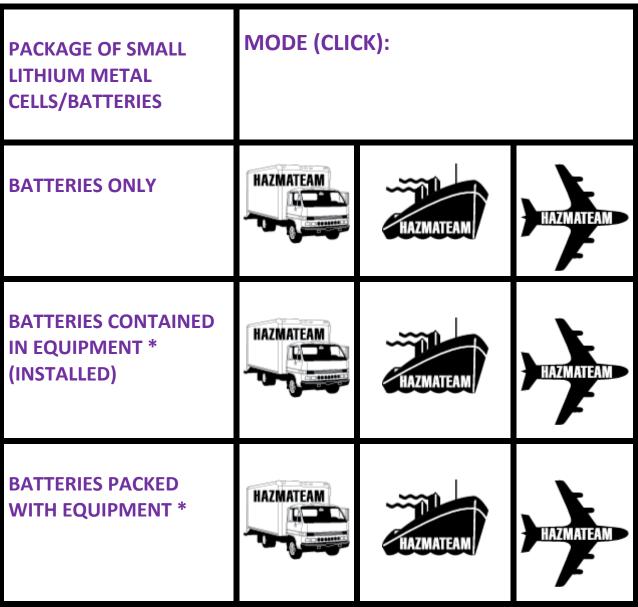
• Equipment means the device or apparatus for which the lithium cells or batteries will provide electrical power for its operation

NAVIGATE (CLICK):



WHAT SIZE IS MY LITHIUM ION (RECHARGEABLE) CELL/BATTERY?

SMALL LITHIUM METAL CELL/BATTERY REQUIREMENTS



• Equipment means the device or apparatus for which the lithium cells or batteries will provide electrical power for its operation

NAVIGATE (CLICK):



WHAT SIZE IS MY LITHIUM METAL (NON-RECHARGEABLE) <u>CELL/BATTERY?</u>

MEDIUM¹ LITHIUM METAL CELL/BATTERY REQUIREMENTS

PACKAGE OF MEDIUM LITHIUM METAL CELLS/BATTERIES	MODE (CLICK):
BATTERIES ONLY	HAZMATEAM
BATTERIES CONTAINED IN EQUIPMENT ² (INSTALLED)	HAZMATEAM
BATTERIES PACKED WITH EQUIPMENT ²	HAZMATEAM

NOTES:

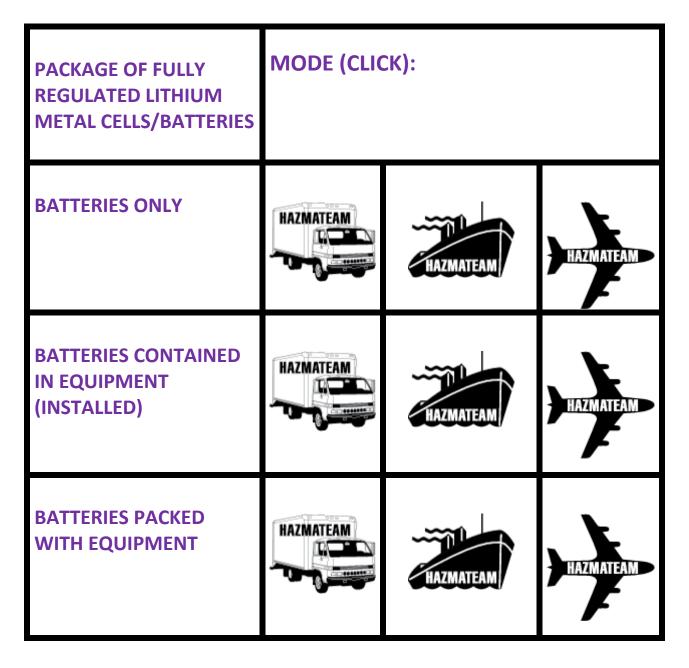
1) MEDIUM BATTERIES IS A DESIGNATION FOR GROUND DOMESTIC USA ONLY;

2) Equipment means the device or apparatus for which the lithium cells or batteries will provide electrical power for its operation

NAVIGATE (CLICK):



WHAT SIZE IS MY LITHIUM METAL (NON-RECHARGEABLE) CELL/BATTERY? FULLY REGULATED LITHIUM METAL CELL/BATTERY REQUIREMENTS



NAVIGATE (CLICK):



WHAT SIZE IS MY LITHIUM METAL (NON-RECHARGEABLE) CELL/BATTERY?

SMALL LITHIUM ION BATTERIES – NO EQUIPMENT

- LITHIUM ION BATTERIES, UN 3480 •
- **GROUND & VESSEL TRANSPORT** •
- BATTERY SIZE: SMALL (UN Tested) •
- NO EQUIPMENT .

TO:

- DECLARATION/SHIPPING PAPER: NO •
- Limit: 30 KG GROSS WT •





Address label optional

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REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188







SMALL LITHIUM ION BATTERIES PACKED WITH EQUIPMENT



NET WT OF SMALL BATTERIES PER PACKAGE IS NO MORE THAN 5 KG

- LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- CLICK HERE IF MORE THAN 5 KG NET PER PKG



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REFERENCE:
GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)
VESSEL: IMDG CODE, CHAPTER 3.3, SP 188





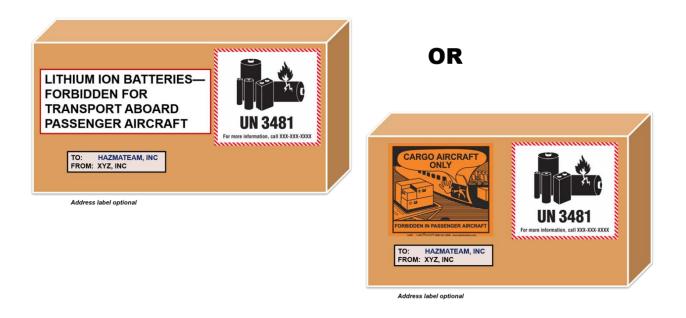


SMALL LITHIUM ION BATTERIES PACKED WITH EQUIPMENT



NET WT OF SMALL BATTERIES PER PACKAGE IS GREATER THAN 5 KG

- LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (<u>UN Tested</u>)
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- CLICK HERE IF NO MORE THAN 5 KG NET PER PACKAGE



© HAZMATEAM, INC REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188





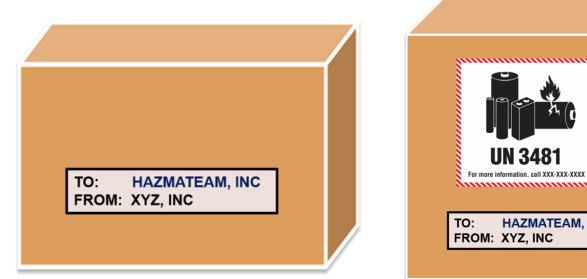
SMALL LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT



NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

NET WT OF SMALL BATTERIES PER PACKAGE IS NO MORE THAN 5 KG

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481 •
- **GROUND & VESSEL TRANSPORT**
- BATTERY SIZE: SMALL (UN Tested) •
- DECLARATION/SHIPPING PAPER: NO
- BATTERY INSTALLED IN EQUIPMENT.
- CLICK HERE IF MORE THAN 5 KG NET PER PACKAGE
- CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED
- CLICK HERE IF LITHIUM ION BUTTON CELLS INSTALLED



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REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188

IF MORE THAN 2 PACKAGES PER CONSIGNMENT.







SMALL LITHIUM ION BUTTON CELLS CONTAINED IN EQUIPMENT



NET WT OF SMALL BATTERIES PER PACKAGE IS NO MORE THAN 5 KG

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- BUTTON CELL INSTALLED IN EQUIPMENT
- DECLARATION/SHIPPING PAPER: NO
- BUTTON CELL INSTALLED IN EQUIPMENT
- NO LIMIT TO THE NUMBER OF BUTTON CELLS INSTALLED, MUST NOT EXCEED 5 KG NET PER PKG
- <u>CLICK HERE IF SMALL LITHIUM ION BATTERY OTHER THAN BUTTON CELL INSTALLED</u>



Button cell or battery means a round small cell or battery when the overall height is less than the diameter.

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REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188







SMALL LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT



MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

NET WT OF BATTERIES PER PACKAGE NO MORE THAN 5 KG

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- DECLARATION/SHIPPING PAPER: NO
- BATTERY INSTALLED IN EQUIPMENT.
- CLICK HERE IF MORE THAN 5 KG NET PACKAGE
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE</u>



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GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)	
VESSEL: IMDG CODE, CHAPTER 3.3, SP 188	







SMALL LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

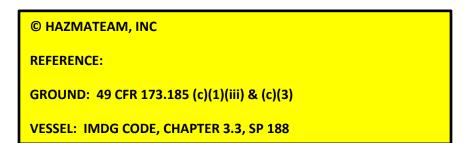


NET WT OF BATTERIES PER PACKAGE GREATER THAN 5 KG

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (<u>UN Tested</u>)
- DECLARATION/SHIPPING PAPER: NO
- BATTERY INSTALLED IN EQUIPMENT.
- CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED AND NO MORE THAN 5 KG PER PKG
- CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED AND NO MORE THAN 5 KG PER PKG



Address label optional









WITHIN QUANTITY LIMITS OF PI 965 SECTION II

- LITHIUM ION BATTERIES, UN 3480 .
- **AIR TRANSPORT** •
- NO EQUIPMENT
- BATTERY SIZE: SMALL (UN Tested) •
- **DECLARATION/SHIPPING PAPER: NO**
- STATE OF CHARGE MUST NOT EXCEED 30 % OF RATED DESIGN CAPACITY
- ONLY 1 PKG PER CONSIGNMENT MAY BE OFFERED PER PI 965 Section II (more than 1 PKG to be offered according to PI 965 Section 1B)
- WITHIN THE LIMITS OF THE FOLLOWING TABLE:

Contents	Lithium ion cells and/or batteries with a Watt-hour rating not more than 2.7 Wh	Lithium ion cells with a Watt-hour rating more than 2.7 Wh but not more than 20 Wh	Lithium ion bat- teries with a Watt-hour rating more than 2.7 Wh but not more than 100 Wh
Maximum number of cells/ batteries per package. Maximum net quantity (mass) per package.	No Limit 2.5 kg	8 cells n/a	2 batteries. n/a.

CLICK HERE IF TABLE LIMITS EXCEEDED



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© HAZMATEAM, INC; **REFERENCE:** DOMESTIC USA: 49 CFR 173.185 (c)(4) **INTERNATIONAL AIR: IATA PACKING INSTRUCTION 965, SECTION II**

NAVIGATE (CLICK):









NOTE:

FEDEX & UPS WILL NOT ACCEPT THIS PACKAGE (PI 965 SECTION II)

MUST BE SHIPPED PI 965 SECTION IB

OR

PI 965 SECTION IA

CELLS AND BATTERIES MUST NOT BE PACKED IN THE SAME OUTER PACKAGING WITH OTHER **DANGEROUS GOODS**

SMALL LITHIUM ION BATTERIES - NO EQUIPMENT (PI 965 SECTION 1B)

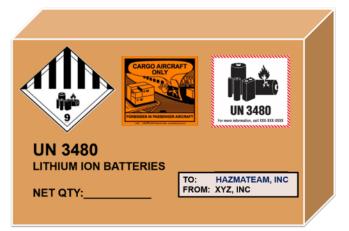
EXCEEDS QUANTITY LIMITS IN PI 965 SECTION II

- LITHIUM ION BATTERIES, UN 3480
- AIR TRANSPORT
- NO EQUIPMENT
- PACKAGE CONTAINS ≤ 10 KG net, SMALL LITHIUM ION BATTERIES (<u>UN Tested</u>)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- STATE OF CHARGE MUST NOT EXCEED 30 % OF RATED DESIGN CAPACITY
- **EXCEEDS** THE LIMITS OF THE FOLLOWING TABLE OR MORE THAN 1 PKG OF PI 965 SECTION II PER CONSIGNMENT:

Contents	Lithium ion cells and/or batteries with a Watt-hour rating not more than 2.7 Wh	Lithium ion cells with a Watt-hour rating more than 2.7 Wh but not more than 20 Wh	Lithium ion bat- teries with a Watt-hour rating more than 2.7 Wh but not more than 100 Wh	
Maximum number of cells/ batteries per package.	No Limit	8 cells	2 batteries.	
Maximum net quantity (mass) per package.	2.5 kg	n/a	n/a.	



IF WITHIN QUANTITY LIMITS AND 1 PKG PER CONSIGNMENT, CLICK HERE



CELLS AND BATTERIES MUST NOT BE PACKED IN THE SAME OUTER PACKAGING WITH CLASS 1 (OTHER THAN 1.4S), DIV 2.1, CLASS 3, DIV 4.1 or DIV 5.1

Address label mandatory

© HAZMATEAM, INC <u>REFERENCE:</u> DOMESTIC USA: 49 CFR 173.185 (c)(4) INTERNATIONAL AIR: IATA PACKING INSTRUCTION 965, SECTION IB







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SMALL LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

- LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, UN 3481
- Air TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- LIMIT: NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG
- NO MORE THAN THE MINIMUM NUMBER OF BATTERIES TO POWER THE EQUIPMENT PLUS TWO SPARES.
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.



Address label optional

© HAZMATEAM, INC REFERENCE: DOMESTIC USA: 49 CFR 173.185 (c)(3), (c)(4) INTERNATIONAL AIR: IATA, PACKING INSTRUCTION 966, SECTION II







SMALL LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- Air TRANSPORT (Battery installed)
- BATTERY SIZE: SMALL (UN Tested)
- LIMIT: NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG
- *LIMIT:* NO MORE THAN 4 LITHIUM ION CELLS OR 2 LITHIUM ION BATTERIES ARE INSTALLED OR IF BUTTON CELL BATTERIES ARE INSTALLED.
- DECLARATION/SHIPPING PAPER: NO
- CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS)
- <u>CLICK HERE IF SHIPPING BUTTON CELLS INSTALLED IN EQUIPMENT</u>

TO: HAZMATEAM, INC FROM: XYZ, INC	

Address label optional

IF SHIPPING ONE OR TWO PACKAGES ACCORDING TO PI 967, SECTION II Address label optional

IF SHIPPING MORE THAN TWO PACKAGES ACCORDING TO PI 967, SECTION II

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REFERENCE: DOMESTIC USA: 49 CFR 173.185 (c)(3), (c)(4)

INTERNATIONAL AIR: IATA, PACKING INSTRUCTION 967, SECTION II











SMALL LITHIUM ION BUTTON CELLS CONTAINED IN EQUIPMENT



NO MORE THAN 5 KG NET QTY OF BUTTON CELLS INSTALLED PER PKG

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- AIR TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- BUTTON CELL INSTALLED IN EQUIPMENT
- DECLARATION/SHIPPING PAPER: NO
- BUTTON CELL INSTALLED IN EQUIPMENT
- NO LIMIT TO THE NUMBER OF BUTTON CELLS INSTALLED, CANNOT EXCEED 5 KG NET PER PACKAGE
- <u>CLICK HERE IF SMALL LITHIUM ION BATTERIES OTHER THAN BUTTON CELLS CONTAINED IN EQUIPMENT</u>

TO: FROM:	HAZMATEAM, INC XYZ, INC	

Button cell or battery means a round small cell or battery when the overall height is less than the diameter.

Address label optional

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REFERENCE:

DOMESTIC USA: 49 CFR 173.185 (c)(3), (c)(4)

INTERNATIONAL AIR: IATA, PACKING INSTRUCTION 967, SECTION II





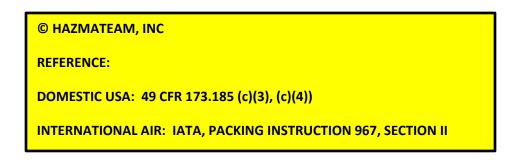
SMALL LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- Air TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- LIMIT: NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG
- DECLARATION/SHIPPING PAPER: NO
- BATTERY IS INSTALLED.
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE</u>



Address label optional



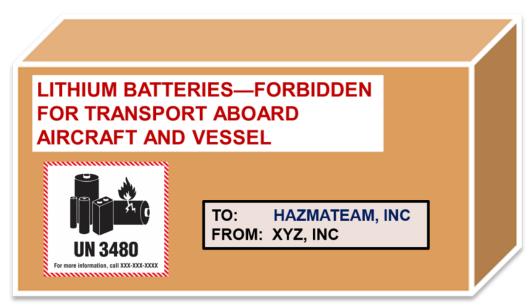




MEDIUM LITHIUM ION BATTERIES – NO EQUIPMENT

- LITHIUM ION BATTERIES, UN 3480
- GROUND ONLY --- DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- NO EQUIPMENT
- DECLARATION/SHIPPING PAPER: NO
- Limit: 30 KG GROSS WT





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REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv), (vi) & (c)(3)



MEDIUM LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, UN 3481 •



GROUND ONLY --- DOMESTIC USA ONLY BATTERY SIZE: MEDIUM (UN Tested)

•

- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED. •

LITHIUM BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD AIRCRAFT AND VESSEL TO: HAZMATEAM, INC FROM: XYZ, INC UN 3481 For more information, call XXX-XXX-XXXX

Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv) & (c)(3)

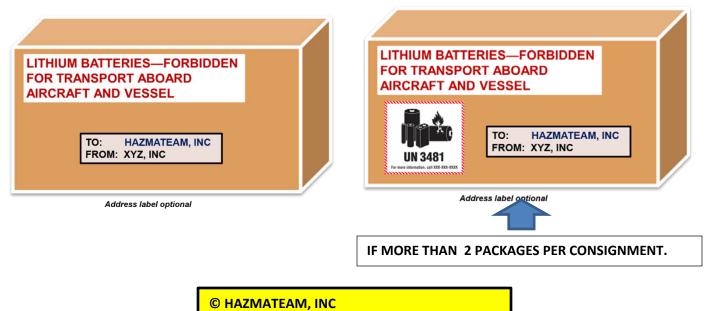


MEDIUM LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED PER PACKAGE



- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- GROUND ONLY --- DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED IN EQUIPMENT OR BUTTON CELLS INSTALLED
- DECLARATION/SHIPPING PAPER: NO
- BATTERY INSTALLED IN EQUIPMENT.
- <u>CLICK HERE FOR MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE</u>



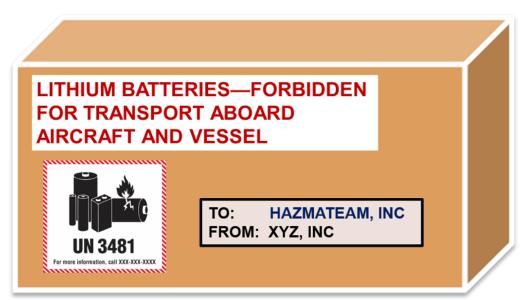
REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv) & (c)(3)

MEDIUM LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- GROUND ONLY --- DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- DECLARATION/SHIPPING PAPER: NO
- BATTERY INSTALLED IN EQUIPMENT.
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE</u>



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REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv) & (c)(3)









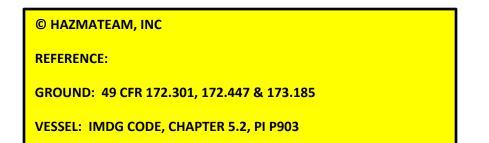
FULLY REGULATED LITHIUM ION BATTERIES – NO EQUIPMENT



- LITHIUM ION BATTERIES, UN 3480
- GROUND AND VESSEL TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- NO EQUIPMENT
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- Limit: REFER TO PACKAGE CLOSURE INSTRUCTION

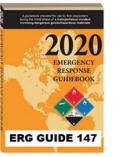


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NAVIGATE (CLICK):







SHIPPING PAPER

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FULLY REGULATED LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

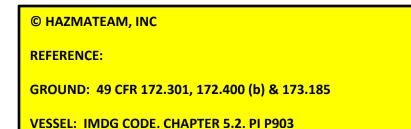
- LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- Limit: REFER TO PACKAGE CLOSURE INSTRUCTION





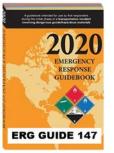


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NAVIGATE (CLICK):







SHIPPING PAPER EXAMPLES

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FULLY REGULATED LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- BATTERY INSTALLED IN EQUIPMENT





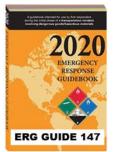


Address label: IMDG optional; DOT see 49 CFR 172.301(d)

© HAZMATEAM, INC <u>REFERENCE:</u> GROUND: 49 CFR 172.301, 172.447 & 173.185 SPEC PKG NOT REQUIRED: 49 CFR 173.185 (b)(4) VESSEL: IMDG CODE, CHAPTER 5.2, PI P903

NAVIGATE (CLICK):







SHIPPING PAPER EXAMPLES

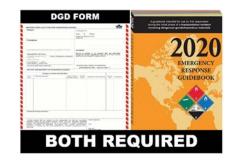
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FULLY REGULATED LITHIUM ION BATTERIES - NO EQUIPMENT (PI 965 SECTION IA)

- LITHIUM ION BATTERIES, UN 3480
- AIR TRANSPORT
- NO EQUIPMENT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- BATTERY STATE OF CHARGE MUST NOT EXCEED 30 % OF RATED DESIGN CAPACITY
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- FORBIDDEN FOR PASSENGER AIR; MAX NET QTY/PKG CARGO AIRCRAFT = 35 KG
- REFER TO PACKAGE CLOSURE INSTRUCTION





CELLS AND BATTERIES MUST NOT BE PACKED IN THE SAME OUTER PACKAGING WITH CLASS 1 (OTHER THAN 1.4S), DIV 2.1, CLASS 3, DIV 4.1 or DIV 5.1

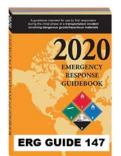
Address label mandatory

© HAZMATEAM, INC

REFERENCE:

DOMESTIC USA: 49 CFR 172.301 & 172.447, 172.402(c), 173.185 INTERNATIONAL AIR: IATA 7.1.4.1, 7.2.3.1, PI 965 SECTION IA













FULLY REGULATED LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

- LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, UN 3481
- AIR TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- MAX NET QTY/PKG PASSENGER AIRCRAFT= 5 KG; MAX NET QTY/PKG CARGO AIRCRAFT = 35 KG
- REFER TO PACKAGE CLOSURE INSTRUCTION



Address label mandatory



ADD THIS LABEL IF PACKAGE CONTAINS GREATER THAN 5 KG NET LITHIUM ION BATTERIES (35 KG MAX)



© HAZMATEAM, INC

<u>REFERENCE:</u> DOMESTIC USA: 49 CFR 172.301 & 172.400(b), 172.402(c), 173.185 INTERNATIONAL AIR: IATA 7.1.4.1, 7.2.3.1, PI 966 SECTION I





FULLY REGULATED LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

- LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, UN 3481 •
- AIR TRANSPORT •
- BATTERY SIZE: FULLY REGULATED (UN Tested) •
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES •
- BATTERY INSTALLED IN EQUIPMENT •
- MAX NET PER PKG PASSENGER AIR = 5 KG; MAX NET QTY PER PKG CARGO AIRCRAFT = 35 KG •

		CARGO AIRCRAFT
	UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT NET QTY:	CONLY CONLY FORBIDEEN IN PASSENGER AIRCRAFT LIE DE REFERENCE DE
TO: HA FROM: XY	ZMATEAM, INC Z, INC	ADD THIS LABEL IF PACKAGE CONTAINS GREATER THAN 5 KG NET LITHIUM ION BATTERIES (35 KG MAX)

Address label mandatory

© HAZMATEAM, INC

REFERENCE:

DOMESTIC USA: 49 CFR 172.301 & 172.400(b), 172.402(c) SPEC PKG NOT REQUIRED: 49 CFR 173.185 (b)(4) INTERNATIONAL AIR: IATA 7.1.4.1, 7.2.3.1, PI 967 SECTION I









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DAMAGED/DEFECTIVE LITHIUM ION BATTERIES SHIPPED GROUND & VESSEL

LITHIUM CELLS OR BATTERIES, THAT HAVE BEEN DAMAGED OR IDENTIFIED BY THE MANUFACTURER AS BEING DEFECTIVE FOR SAFETY REASONS, THAT HAVE THE POTENTIAL OF PRODUCING A DANGEROUS EVOLUTION OF HEAT, FIRE, OR SHORT CIRCUIT (e.g. THOSE BEING RETURNED TO THE MANUFACTURER FOR SAFETY REASONS)

- LITHIUM ION BATTERIES, UN 3480
- BATTERY SIZE: ALL (UN Tested)
- GROUND AND VESSEL ONLY
- ONLY PACKAGING DESIGNED FOR DAMAGED OR DEFECTIVE BATTERIES MAY BE USED
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- CELLS AND BATTERIES LIABLE TO RAPIDLY DISASSEMBLE, DANGEROUSLY REACT, PRODUCE A FLAME OR A DANGEROUS EVOLUTION OF HEAT OR DANGEROUS EMISSION OF TOXIC, CORROSIVE OR FLAMMABELE GASES OR VAPORS UNDER NORMAL CONDITIONS OF TRANSPORT SHALL NOT BE TRANSPORTED



Address label: IMDG optional; DOT see 49 CFR 172.301(d)



© HAZMATEAM, INC

REFERENCE:

<u>IMDG</u>

MARKS AND LABEL: IMDG Code Chapter 5.2 AND SP 376 PACKAGING: IMDG Code Chapter 4.1.4, PI P903 & PI P908

DOT GROUND

MARKS AND LABELS: 49 CFR 172 SUBPARTS D & E & 173.185 (f)(4) PACKAGING: <u>49 CFR 173.185 (b), (f) (CLICK)</u>







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SMALL LITHIUM METAL BATTERIES – NO EQUIPMENT

- LITHIUM METAL BATTERIES, UN 3090 •
- BATTERY SIZE: SMALL (UN Tested) •
- **GROUND & VESSEL TRANSPORT** •
- NO EQUIPMENT .
- DECLARATION/SHIPPING PAPER: NO •
- Limit: 30 KG GROSS WT •





Address label optional



Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188



SMALL LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT

NET WT OF SMALL BATTERIES PER PACKAGE IS NO MORE THAN 5 KG

- LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN 3091
- BATTERY SIZE: SMALL (UN Tested)
- GROUND & VESSEL TRANSPORT
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- <u>CLICK HERE IF MORE THAN 5 KG NET PER PACKAGE</u>



Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3) VESSEL: IMDG CODE, CHAPTER 3.3, SP 188







SMALL LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT



NET WT OF BATTERIES PER PACKAGE IS GREATER THAN 5 KG

- LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN 3091
- BATTERY SIZE: SMALL (UN Tested)
- GROUND & VESSEL TRANSPORT
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- CAO OR "PRIMARY..." LABEL ONLY REQUIRED IF SHIPPED FROM, THROUGH OR TO USA
- CLICK HERE IF NO MORE THAN 5 KG NET PER PACKAGE



Address label optional



Address label optional

© HAZMATEAM, INC REFERENCE: GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3) VESSEL: IMDG CODE, CHAPTER 3.3, SP 188







SMALL LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG



- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE
- BATTERY INSTALLED IN EQUIPMENT.
- DECLARATION/SHIPPING PAPER: NO
- <u>CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS) & NO MORE</u> <u>THAN 5 KG NET</u>
- <u>CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS) & OVER 5</u>
 <u>KG NET</u>
- <u>CLICK HERE IF LITHIUM METAL BUTTON CELLS CONTAINED IN EQUIPMENT</u>



Address label optional





IF MORE THAN 2 PACKAGES PER CONSIGNMENT.

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188







SMALL LITHIUM METAL BUTTON CELLS CONTAINED IN EQUIPMENT

NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- BUTTON CELL INSTALLED IN EQUIPMENT
- DECLARATION/SHIPPING PAPER: NO
- BUTTON CELL INSTALLED IN EQUIPMENT
- NO LIMIT TO THE NUMBER OF BUTTON CELLS INSTALLED, BUT CANNOT EXCEED 5 KG NET
- <u>CLICK HERE IF SMALL LITHIUM METAL BATTERY OTHER THAN BUTTON CELL INSTALLED</u>

TO: HAZMATEAM, INC FROM: XYZ, INC	
FROM: XYZ, INC	

Button cell or battery means a round small cell or battery when the overall height is less than the diameter.

Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3)

VESSEL: IMDG CODE, CHAPTER 3.3, SP 188







SMALL LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

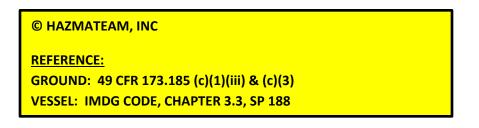


NET WT OF BATTERY PER PACKAGE NO MORE THAN 5 KG

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE
- DECLARATION/SHIPPING PAPER: NO
- BATTERIES INSTALLED IN EQUIPMENT
- <u>CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS) & OVER 5</u>
 <u>KG NET</u>
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS) & NO</u>
 <u>MORE THAN 5 KG NET</u>
- <u>CLICK HERE IF LITHIUM METAL BUTTON CELLS CONTAINED IN EQUIPMENT</u>



Address label optional







SMALL LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

NET WT OF BATTERIES PER PACKAGE IS MORE THAN 5 KG

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- BATTERY SIZE: SMALL (UN Tested)
- GROUND & VESSEL TRANSPORT
- MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED IN EQUIPMENT PER PACKAGE
- DECLARATION/SHIPPING PAPER: NO
- BATTERIES INSTALLED IN EQUIPMENT
- CAO OR "PRIMARY..." LABEL ONLY REQUIRED IF SHIPPED FROM, THROUGH OR TO USA
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS) & NO</u>
 <u>MORE THAN 5 KG NET</u>
- <u>CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED (OTHER THAN BUTTON CELLS) & NO MORE</u>
 <u>THAN 5 KG NET</u>
- <u>CLICK HERE IF LITHIUM METAL BUTTON CELLS CONTAINED IN EQUIPMENT</u>



Address label optional



Address label optional

© HAZMATEAM, INC

REFERENCE: GROUND: 49 CFR 173.185 (c)(1)(iii) & (c)(3) VESSEL: IMDG CODE, CHAPTER 3.3, SP 188





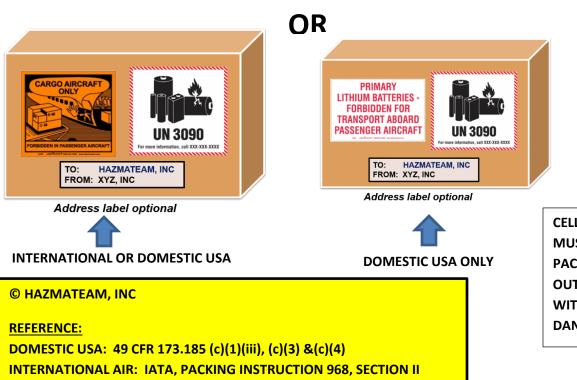
SMALL LITHIUM METAL BATTERIES - NO EQUIPMENT (PI 968 SECTION II)

WITHIN QUANTITY LIMITS

- LITHIUM METAL BATTERIES, UN 3090
- Air TRANSPORT
- NO EQUIPMENT
- BATTERY SIZE: SMALL (UN Tested)
- DECLARATION/SHIPPING PAPER: NO
- ONLY ONE PKG PER CONSIGNMENT MAY BE OFFERED PER PI 968 Section II (IF MORE THAN 1 PKG, SHIP PER <u>PI 968 SECTION 1B</u>)
- WITHIN THE LIMITS OF THE FOLLOWING TABLE:

Contents	Lithium metal cells and/or bat- teries with a lith- ium content not more than 0.3 g	Lithium metal cells with a lith- ium content more than 0.3 g but not more than 1 g	Lithium metal batteries with a lithium content more than 0.3 g but not more than 2 g
Maximum number of cells/ batteries per package.	No Limit	8 cells	2 batteries
Maximum net quantity (mass) per package.	2.5 kg	n/a	n/a

CLICK HERE IF PACKAGE EXCEEDS LIMITS IN TABLE





NOTE:

FEDEX & UPS WILL NOT ACCEPT THIS PACKAGE (PI 968 SECTION II)

MUST BE SHIPPED

PI 968 SECTION IA

OR

PI 968 SECTION IB

CELLS AND BATTERIES MUST NOT BE PACKED IN THE SAME OUTER PACKAGING WITH OTHER DANGEROUS GOODS





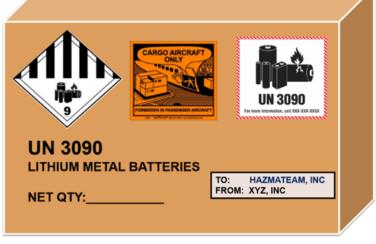
EXCEEDS QUANTITY LIMITS

- LITHIUM METAL BATTERIES, UN 3090
- Air TRANSPORT
- NO EQUIPMENT
- BATTERY SIZE: SMALL (UN Tested)
- Package contains ≤ 2.5 KG net, lithium metal batteries
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- **EXCEEDS** LIMITS OF THE FOLLOWING TABLE:

Contents	Lithium metal cells and/or bat- teries with a lith- ium content not more than 0.3 g	Lithium metal cells with a lith- ium content more than 0.3 g but not more than 1 g	Lithium metal batteries with a lithium content more than 0.3 g but not more than 2 g
Maximum number of cells/ batteries per package.	No Limit	8 cells	2 batteries
Maximum net quantity (mass) per package.	2.5 kg	n/a	n/a

CLICK HERE IF WITHIN TABLE LIMITS

CELLS AND BATTERIES MUST NOT BE PACKED IN THE SAME OUTER PACKAGING WITH CLASS 1 (OTHER THAN 1.4S), DIV 2.1, CLASS 3, DIV 4.1 or DIV 5.1



Address label mandatory

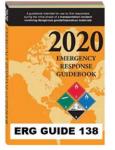


© HAZMATEAM, INC

REFERENCE:

DOMESTIC USA: 49 CFR 173.185 (c)(3), (c)(4) INTERNATIONAL AIR: IATA, PACKING INSTRUCTION 968, SECTION 1B







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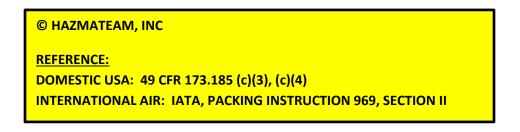


SMALL LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT

- LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN 3091
- Air TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- LIMIT: NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG
- NO MORE THAN THE MINIMUM NUMBER OF BATTERIES TO POWER THE EQUIPMENT PLUS TWO SPARES.
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.



Address label optional





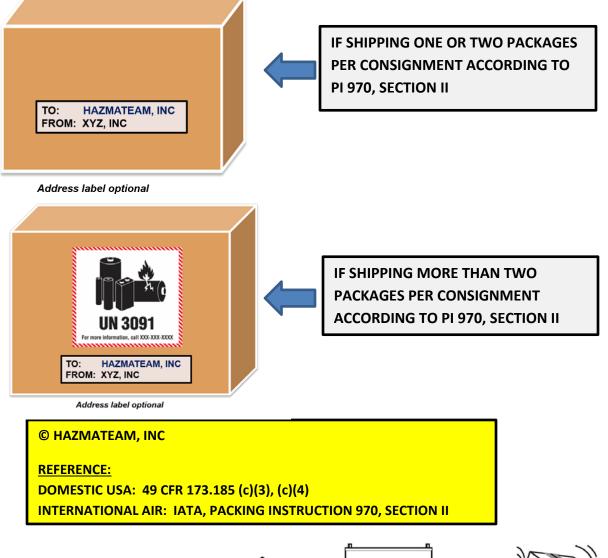




SMALL LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- Air TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- LIMIT: NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG
- LIMIT: NO MORE THAN 4 LITHIUM METAL CELLS OR 2 LITHIUM METAL BATTERIES ARE CONTAINED IN EQUIPMENT OR IF BUTTON CELLS ARE INSTALLED PER PACKAGE
- DECLARATION/SHIPPING PAPER: NO
- BATTERY IS INSTALLED.
- <u>CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES (OTHER THAN BUTTON CELLS) ARE CONTAINED IN</u> <u>EQUIPMENT PER PACKAGE</u>
- <u>CLICK HERE IF LITHIUM METAL BUTTON CELLS ARE CONTAINED IN EQUIPMENT</u>













SMALL LITHIUM METAL BUTTON CELLS CONTAINED IN EQUIPMENT



NO MORE THAN 5 KG NET QTY OF BUTTON CELLS INSTALLED PER PKG

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- AIR TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- BUTTON CELL INSTALLED IN EQUIPMENT
- DECLARATION/SHIPPING PAPER: NO
- BUTTON CELL INSTALLED IN EQUIPMENT
- NO LIMIT TO THE NUMBER OF BUTTON CELLS INSTALLED, CANNOT EXCEED 5 KG NET
- <u>CLICK HERE IF SMALL LITHIUM METAL BATTERY OTHER THAN BUTTON CELL INSTALLED</u>



Button cell or battery means a round small cell or battery when the overall height is less than the diameter.

Address label optional

© HAZMATEAM, INC

REFERENCE:

DOMESTIC USA: 49 CFR 173.185 (c)(3), (c)(4) INTERNATIONAL AIR: IATA, PACKING INSTRUCTION 970, SECTION II







SMALL LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED PER PACKAGE

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- Air TRANSPORT
- BATTERY SIZE: SMALL (UN Tested)
- LIMIT: NET WT OF BATTERIES PER PACKAGE IS NO MORE THAN 5 KG
- DECLARATION/SHIPPING PAPER: NO
- BATTERY IS INSTALLED.
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES ARE CONTAINED IN EQUIPMENT PER PACKAGE</u>



Address label optional

© HAZMATEAM, INC

<u>REFERENCE:</u>

DOMESTIC USA: 49 CFR 173.185 (c)(3), (c)(4) INTERNATIONAL AIR: IATA, PACKING INSTRUCTION 970, SECTION II









MEDIUM LITHIUM METAL BATTERIES – NO EQUIPMENT

- LITHIUM METAL BATTERIES, UN 3090
- GROUND ONLY --- DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- NO EQUIPMENT
- DECLARATION/SHIPPING PAPER: NO
- Limit: 30 KG GROSS WT



LITHIUM BATTER FOR TRANSPORT AIRCRAFT AND V		
	TO: HAZMATEAM, FROM: XYZ, INC	INC
UN 3090 For more information, call XXX-XXXX	, _ ,	

Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv), (vi) & (c)(3)





MEDIUM LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT

- LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN 3091
- GROUND ONLY DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- DECLARATION/SHIPPING PAPER: NO
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.



LITHIUM BATTER FOR TRANSPORT AIRCRAFT AND V		
UN 3091 For more information, call XXX-XXX-XXXX	TO: HAZMATEAM, FROM: XYZ, INC	NC

Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv) & (c)(3)







MEDIUM LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED PER PACKAGE

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- GROUND ONLY DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- NO MORE THAN 4 CELLS OR 2 BATTERIES INSTALLED IN EQUIPMENT OR BUTTON CELLS INSTALLED
- DECLARATION/SHIPPING PAPER: NO
- BATTERY INSTALLED IN EQUIPMENT.
- <u>CLICK HERE IF MORE THAN 4 CELLS OR 2 BATTERIES ARE CONTAINED IN EQUIPMENT PER PACKAGE</u>

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© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv) & (c)(3)

IF MORE THAN 2 PACKAGES PER CONSIGNMENT.





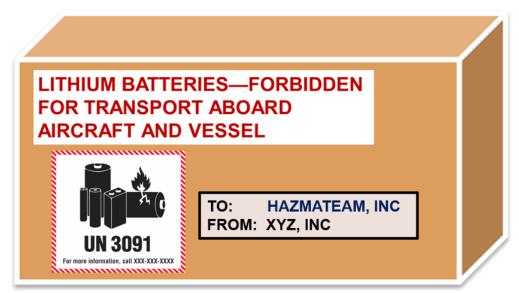




MEDIUM LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- GROUND ONLY --- DOMESTIC USA ONLY
- BATTERY SIZE: MEDIUM (UN Tested)
- DECLARATION/SHIPPING PAPER: NO
- BATTERIES INSTALLED IN EQUIPMENT
- <u>CLICK HERE IF NO MORE THAN 4 CELLS OR 2 BATTERIES CONTAINED IN EQUIPMENT PER PACKAGE</u>



Address label optional

© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 173.185 (c)(1)(iv) & (c)(3)

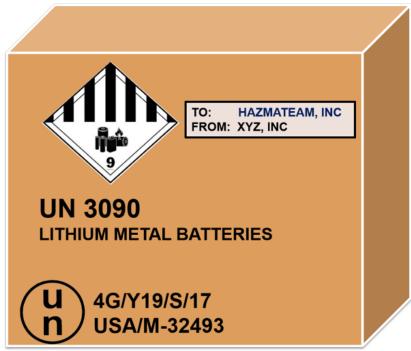






FULLY REGULATED LITHIUM METAL BATTERIES – NO EQUIPMENT

- LITHIUM METAL BATTERIES, UN 3090
- GROUND & VESSEL TRANSPORT
- NO EQUIPMENT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- Limit: REFER TO PACKAGE CLOSURE INSTRUCTION







Address label: IMDG optional; DOT see 49 CFR 172.301(d)

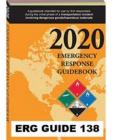
© HAZMATEAM, INC

REFERENCE:

GROUND: 49 CFR 172.301 & 172.447, 173.185

VESSEL: IMDG CODE, CHAPTER 5.2, PI P903







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FULLY REGULATED LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT

- LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN 3091
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- Limit: REFER TO PACKAGE CLOSURE INSTRUCTION





HAZMATEAM

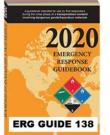
HAZMATEAN

Address label: IMDG optional; DOT see 49 CFR 172.301(d)

© HAZMATEAM, INC

<u>REFERENCE:</u> GROUND: 49 CFR 172.301, 172.447 & 173.185 VESSEL: IMDG CODE, CHAPTER 5.2, PI P903







SHIPPING PAPER EXAMPLES						
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10.00	5.84		200	North Contract	Southeast Man	2007 MG/2



FULLY REGULATED LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- GROUND & VESSEL TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- BATTERY INSTALLED IN EQUIPMENT







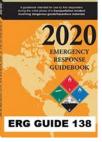
Address label: IMDG optional; DOT see 49 CFR 172.301(d)

© HAZMATEAM, INC

<u>REFERENCE:</u> GROUND: 49 CFR 172.301 & 172.400 (b) SPEC PKG NOT REQUIRED: 49 CFR 173.185 (b)(4) VESSEL: IMDG CODE, CHAPTER 5.2, PI P903

NAVIGATE (CLICK):





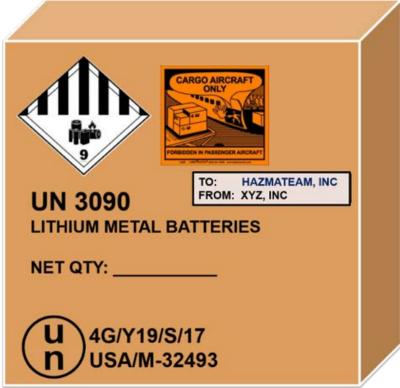


SHIPPING PAPER EXAMPLES



FULLY REGULATED LITHIUM METAL BATTERIES - NO EQUIPMENT (PI 968 SECTION IA)

- LITHIUM METAL BATTERIES, UN 3090
- AIR TRANSPORT
- NO EQUIPMENT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- FORBIDDEN FOR PASSENGER AIRCRAFT; MAX NET QTY PER CARGO AIRCRAFT = 35 KG
- REFER TO PACKAGE CLOSURE INSTRUCTION



Address label mandatory





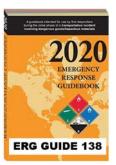
CELLS AND BATTERIES MUST NOT BE PACKED IN THE SAME OUTER PACKAGING WITH CLASS 1 (OTHER THAN 1.4S), DIV 2.1, CLASS 3, DIV 4.1 or DIV 5.1

© HAZMATEAM, INC

<u>REFERENCE:</u>

DOMESTIC USA: 49 CFR 172.301 & 172.400(b), 172.402(c) INTERNATIONAL AIR: IATA 7.1.4.1, 7.2.3.1, PI 968 SECTION IA











FULLY REGULATED LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT

LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN 3091

- AIR TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- EQUIPMENT AND BATTERY IN SAME PACKAGE. BATTERY NOT INSTALLED.
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- MAX NET PER PKG PASSENGER AIR = 5 KG;
- MAX NET QTY PER PKG CARGO AIRCRAFT = 35 KG
- REFER TO PACKAGE CLOSURE INSTRUCTION

UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT NET QTY:	
TO: HAZMATEAM, INC FROM: XYZ, INC	
U 4G/Y19/S/17 USA/M-32493	

Address label mandatory



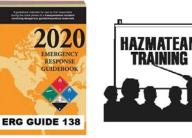
ADD THIS LABEL IF PACKAGE CONTAINS GREATER THAN 5 KG NET LITHIUM METAL BATTERIES (35 KG MAX)



© HAZMATEAM, INC

REFERENCE: DOMESTIC USA: 49 CFR 172.301 & 172.400(b), 172.402(c) INTERNATIONAL AIR: IATA 7.1.4.1, 7.2.3.1, PI 969 SECTION I









FULLY REGULATED LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

- LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, UN 3091
- AIR TRANSPORT
- BATTERY SIZE: FULLY REGULATED (UN Tested)
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- BATTERY INSTALLED IN EQUIPMENT
- MAX NET PER PKG PASSENGER AIR = 5 KG; MAX NET QTY PER PKG CARGO AIRCRAFT = 35 KG

	UN 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT NET QTY:	
L	FROM: XYZ, INC	
	Address label mandatory	

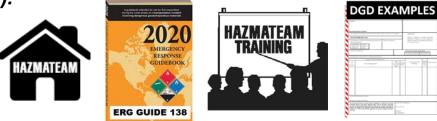


ADD THIS LABEL IF PACKAGE CONTAINS GREATER THAN 5 KG NET LITHIUM METAL BATTERIES (35 KG MAX)



© HAZMATEAM, INC

REFERENCE: DOMESTIC USA: 49 CFR 172.301,172.447, 172.402(c) & 173.185 SPEC PKG NOT REQUIRED: 49 CFR 173.185 (b)(4) INTERNATIONAL AIR: IATA 7.1.4.1, 7.2.3.1, PI 970 SECTION I







DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES SHIPPED GROUND & VESSEL

LITHIUM CELLS OR BATTERIES, THAT HAVE BEEN DAMAGED OR IDENTIFIED BY THE MANUFACTURER AS BEING DEFECTIVE FOR SAFETY REASONS, THAT HAVE THE POTENTIAL OF PRODUCING A DANGEROUS EVOLUTION OF HEAT, FIRE, OR SHORT CIRCUIT (e.g. THOSE BEING RETURNED TO THE MANUFACTURER FOR SAFETY REASONS)

- LITHIUM METAL BATTERIES, UN 3090
- BATTERY SIZE: ALL (UN Tested)
- GROUND AND VESSEL ONLY
- ONLY PACKAGING DESIGNED FOR DAMAGED OR DEFECTIVE BATTERIES MAY BE USED
- DECLARATION/SHIPPING PAPER & ER INFO (SDS or ERG Page): YES
- CELLS AND BATTERIES LIABLE TO RAPIDLY DISASSEMBLE, DANGEROUSLY REACT, PRODUCE A FLAME OR A DANGEROUS EVOLUTION OF HEAT OR DANGEROUS EMISSION OF TOXIC, CORROSIVE OR FLAMMABELE GASES OR VAPORS UNDER NORMAL CONDITIONS OF TRANSPORT SHALL NOT BE TRANSPORTED



Address label: IMDG optional; DOT see 49 CFR 172.301(d)



HAZMATEAM

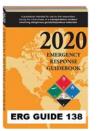
© HAZMATEAM, INC REFERENCE:

<u>IMDG</u>

MARKS AND LABEL: IMDG Code Chapter 5.2 AND SP 376 PACKAGING: IMDG Code Chapter 4.1.4, PI P903 & PI P908

DOT GROUND MARKS AND LABELS: 49 CFR 172 SUBPARTS D & E & 173.185 (f)(4) PACKAGING: <u>49 CFR 173.185 (b), (f) (CLICK)</u>











SHIPPING PAPER/DECLARATION EXAMPLES

The following are examples of completed shipping papers/declarations. Always consult the appropriate regulation for complete details:

USA Ground:	<u>49 CFR 172.200 (CLICK)</u>
International vessel:	IMDG Code, Volume 1, Chapter 5.4
International air:	IATA DGR, Section 8 (Note: New declaration format as of IATA 60 th Edition,
	2019; May use declaration illustrated in the 59 th Edition until 31-Dec-2024.

EXAMPLE #	MODE	CONSIGNMENT
<u>1 (click)</u>	Ground	UN 3480 and non-regulated material
<u>2 (click)</u>	Ground	UN 3091, Lithium Metal Batteries Packed with Equipment in an overpack
<u>3 (click)</u>	Ground	Wooden crates - UN 3481, Lithium Ion Batteries Contained in equipment and non-regulated material
<u>4 (click)</u>	Vessel	Consignment of UN 3090, UN 3091 ('packed with') and UN 3091 ('contained in')
<u>5 (click)</u>	Vessel	250 packages of UN 3480 loaded into a freight container
<u>6 (click)</u>	Vessel	Packages of UN 3480 and UN 3090 contained in an overpack
<u>7 (click)</u>	Air	Fully regulated UN 3090 shipped according to IATA PI 968 Section IA
<u>8 (click)</u>	Air	Small UN 3090 shipped according to IATA PI 968 Section IB
<u>9 (click)</u>	Air	Fully regulated UN 3480 shipped according to IATA PI 965 Section IA
<u>10 (click)</u>	Air	SMALL UN 3480 batteries shipped according to IATA PI 965 Section IB
<u>11 (click)</u>	Air	UN 3481, Lithium Ion Batteries Contained in Equipment within an overpack
<u>12 (click)</u>	Air	UN 3091, Lithium Metal Batteries packed with equipment. Shipped out of USA.



• 10 FIBREBOARD BOXES of UN 3480 (NO EQUIPMENT) : Each Box contains 5 KG net batteries; Each Box weighs 11 KG, GROSS

 $\circ \quad \textbf{1 box of non-regulated material}$

Page 1 of 1				Date_	1-JAN	-2020
On Collect on Delivery shoments the letters "Co		Name of carrier)	(SCAC)			
TO: XYZ, INC			ATEAM, INC			
Street 1 MAIN ST	IREET		MBALL HILL RO			02054
City OMAHA	State NE Zip Code 72111	City HUDSON	800-535	State NH z		03051 T 12345
		24 hr. Emergency Cont	tact Tel. No.	Vehicle		1 12345
Route	BASIC DESCRIPTON		TOTAL QUANTITY	Number WEIGHT	A	CHARGES
& Container Type	Proper Shipping Name, Hazard Cla Identification Number (UN or NA), Packing Group, per 17	ass. 72 101, 172 202, 172 203	(Weight, Volume, Gallons, etc)	(Subject to Correction)	RAT	(For Carner Use Only)
10 BOXES X	UN 3480, LITHIUM ION BAT	TERIES, 9	50 KG (NET)	110 KG (GROSS)	Π	
	ERG # 147		17 12			
//			<mark> </mark>			
			├ ─//─		$\left - \right $	
<u>1 BOX</u>	NON-REGULATED MATERIA		-//	10 KG (GROSS)		
'X' IN HM C	OLUMN IF HAZARDOUS	/				
		QTY, CAN BE		ING 3 RD F		
	I NET O	R GROSS		HONE SER		-
				JDE CON	IRA	<mark>.CI</mark> ——
				BER		
		· · · · · ·				
Note - (1) Where the rate is depen specifically in writing the agreed or de	Adent on value shippeers are required to state I hereby declare that the content clared value of the property, as follows "The consignment are fully and ac					
agreed or declared value of the proper be not exceedingpe (2) Where the applicable tariff provisi	ty is hereby specifically stated by the shipper to described above by the proper s	shipping ickaged, and are futon for	Amt	C O D FEE PREPAID	п	
the carrier's liability or declare a value provided by such provisions. See NMF (3)Commodities requiring special or ad	the carrier's liability shall be limited to the extent transport according to ap C Item 172 ditional care or attention in handling or stowing regulations	plicable Subject to Section 7 of the co primental consignee without recourse of following statement		NED PERS	SON	<u>s</u>
	Is and Statements of Charges and Section 1(a) Tom Thumh	mature (ATURE		







- 20 Plywood boxes of Lithium Metal Batteries Packed with Equipment: Each Package contains 3 Kg, net lithium metal batteries; Each Package weighs 10 KG, GROSS WT
- All 20 boxes are on a pallet, shrunk wrapped (an overpack)

Page 1 of 1				Date F	FEB 5, 2020
Page 1 of 1	_	(Name of carrier)	(SCAC)		
On Collection Delivery shipments the letters "COL TO: Consignee XYZ, INC.	Of must appear before consignee's name or as otherwise provided in Nem 430. Sec 1		MATEAM, INC MBALL HILL RO	the second state to be addressed as the	
Street 1 MAIN ST	REET	City HUDSON			up Code 03051
City OMAHA	State NE Zip Code 721		atact Tel No. 800-535		FRACT 12345
Route				Vehicle Number	
No of Units & Container Type	BASIC DESCRIPTO Proper Shipping Name, Haz Identification Number (UN or NA), Packing Group,	ard Class,	TOTAL QUANTITY (Weight, Volume, Gallons, etc)	WEIGHT (Subject to Correction)	CHAR RATE (For Ca Use C
20 BOXES X	UN 3091, LITHIUM META	L BATTERIES	60 KG (NET)	200 KG,GROSS	
(4D)	PACKED WITH EQUIPME	NT, 9			
	ERG # 138				
	ABOVE PLACED IN 1 OV	ERPACK			
		<u> </u>			
'X' IN HM CC	DLUMN				
IF HAZARDO	US				
	VERPACK CONTAINS 2			SING 3 RD F	
	ARKED AND LABELED			TRACT N	CE, INCLUDE
PLACARDS TE Note - (1) Where the rate is depend specifically in writers the agreed or de	NDERED: YES NO lent on value shippeers are required to state cared value of the property as follows - the consignment are fully	REMIT C O D TO ADDRESS			
agreed or declared value of the property be not exceeding per (2) Where the applicable tariff provisio	is hereby specifically stated by the shipper to described above by the rame and are classifiers specify a limitation of the carrier's lability in specify a limitation of the carrier's lability with shipper and the shipper does not release in all respects in prop	proper shipping led, packaged, carded, and are	Amt \$	C O D FEE PREPAID	
the carrier's liability or declare a value the provided by such provisions. See NMFC (3)Commodities requiring special or add	he carrier's liability shall be limited to the extent transport according international and nation ditional care or attention in handling or stowing regulations o ensure safe transportation. See section 2(e)	to applicable Subject to Section 7 of the e	e delivery of this shipm	RAINED	PERSON'S
of item 360 Bills of Lading, Freight Bills of the Contract Terms and Conditions fo	s and Statements of Charges and Section 1(a) E. Nunez	Signature		GNATUR	E



SHIPPING PAPER EXAMPLES									
.8.17 ₁ HW	manal	a Tablica		20	100	- 20			
					_				
		0	d Ex						
	52.841 679:30		600	1	107	1			



10 WOODEN CRATES; Each crate contains a piece of equipment with one lithium ion battery installed. The net wt of the battery = 7 KG; The gross wt of one completed crate = 20 KG. The crates are not placed in an overpack.

Consignment also includes 2 bags of non-regulated material.

_{Page} 1 _{of}	1						Date	, FEB	5, 2020
		- Insult appear before consigned's name or as otherware; PORATION	,	f carrier) FROM: Shipper	HAZM	(SCAC) ATEAM, INC			
Consignee				Street	12 KIM	BALL HILL RO	DAD		
Gaber		STRIAL BLVD		<u>City</u> H	UDSON		State NH	Zip Cod	_e 03051
City ROCHES	STER	State NY	_{Zip Code} 14602	24 hr. Eme	ergency Conta	ct Tel. No. 800-535	5053, CO	NTRA	CT 12345
Route							Vehi Num		2
No of Units & Container Type	нм	Proper Identification Number (UN o	BASIC DESCRIPTON r Shipping Name, Hazard Class, r NA), Packing Group, per 172 101,	, 172 202, 17	2 203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	R/	CHARGES (For Carrier Use Only)
10	Х	UN 3481, LITHIL	JM ION BATTE	RIES		70 KG (NET)	200 KG,GRO	ss	
WOODEN		CONTAINED IN	EQUIPMENT, 9	Т	OTAL Q	TY, CAN BE NET	r or gros	s	
CRATES		ERG # 147	1	7_				Τſ	
2 BAGS		NON-REGULAT	ED MATERIAL				5 KG, GROS	s	
	(' IN	HM COLUMN							
		ZARDOUS							
						IF US	NG 3 RD		
	RE	CHARGEABLE	LITHIUM BA	TTEF	RIES				NCLUDE
	INS	TALLED IN EC	UIPMENT				RACT N		
Note - (1) Where the rat	e is depend		I hereby declare that the contents of this	REMIT C O D TO ADDRES)				
specifically in writing the a agreed or declared value of be not exceeding	greed or dec the property per	stared value of the property, as follows "The is hereby specifically stated by the shipper to	consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are	CO	_	Amt \$	COD	FEE	
absent a release or a value the carrier's liability or decla provided by such provisions	declaration b ire a value th s See NMFC	is specify a limitation of the carner's liability if the shipper and the shipper does not release e carner's liability shall be limited to the extent item 172	in all respects in proper condition for transport according to applicable international and national governmental	Subject to S consignee with	action 7 of the cond thout recourse on		AINED	PERS	SON'S
(3)Commodities requiring s must be so marked and pa of item 360 Bills of Lading, of the Contract Terms and 0	ckaged as to Freight Bills	tional care or attention in handling or stowing ensure safe transportation. See section 2(e) and Statements of Charges and Section 1(a) a list of such articles	regulations Lily Von Schtuk Signature		(5q		NATU	RE	







<u>UN 3090:</u> Each box contains 5 kg of lithium metal batteries; <u>UN 3091, 'packed with'</u>, box contains one 5 kg lithium metal battery in same package with equipment; <u>UN 3091, 'contained in</u>" box contains one 12 kg lithium battery installed in equipment

The four packages are sent to a freight forwarder.

	MULTIMODA	L DANGE	ROUS (SOODS	S FORM	
1 Shipper/Consignor/Sender		2 Transport docume	nt number			
HAZMATEAM, INC		3 Page 1 of p	ages 4 Shipper's	reference		
12 KIMBALL HILL ROAD		1				
HUDSON NH 03051 USA		Booking Number	5 Freight f	orwarder's refe	rence	
6 Consignee		7 Carrier				
HAZMATEAM - JAMAICA	l l					_
21 RASTA WAY		IF U	USING 3 RD I	PARTY E	R PHONE	
KINGSTON JAMAICA		SEI	RVICE, INCL	UDE CO	NTRACT	
10 Vessel	11 Port of loading		IMBER, FOI	R INTERI	NATIONAL	
		I hereby dec DO	NOT USE	800 NUN	ABERS	scribed below placarded and
		are in all respects in national government		transpo	ling to the applicable	
12 Port of discharge	13 Destination	9 Additional handling	-	$\overline{}$	7	
		24 HR FR - INF	OTRAC 1-011-35	2-323-3500.	Contract ID - 1238	3B
14 Shipping marks	*) Number and kind of package	es: description of good	5	Gross mass (I	(g) Net	Cube (m ³)
	UN 3090, LITHIUN			30 KG	10 KG	
IMDG EMS –	,		,			
COLUMN 15	IMDG EMS: F-A, S	S-I; DOT ERG	138			
OF DGL	2 (4G) FIBREBOA	RD BOXES				
DOT ERG –	UN 3091, LITHIUN	METAL BA	ITERIES	25 KG	5 KG	
ORANGE	PACKED WITH E					
BOOK' CODE						
	IMDG EMS: F-A, S		138			
DACKACE	1 (4G) FIBREBOA	RD BOX				
PACKAGE	UN 3091, LITHIUN		TTERIES	66 KG	12 KG	
CODES	CONTAINED IN E					
(EX – 4G)						
OPTIONAL	IMDG EMS: F-A,		138	BOX	22 ALW/	AYS
	1 PLYWOOD BO	-		REQ	UIRES A	
15 Container identification No./	16 Seal number(s)	17 Cont./vehicle size	e & type 18 Tare n	SIGN	IATURE B	v
CONTAINER/VEHICLE PACKIN I hereby declare that the good	ods described above have been				NED SHI	PPER
identified above in accordance w	,	Received the above unless stated hereon	number of packages RECEIVING ORG	ANIZATION RE	MARKS:	
VEHICLE LOADS BY PERSON	SIGNED FOR ALL CONTAINER/ RESPONSIBLE FOR PACKING/					
20 Name of company		Haulier's name		22 N	ame of co. of shipper p	reparing this note
		Vehicle reg. no		HAZ	MATEAM	
Name/status of declarant		Signature and date			/status of declarant Traverse, Shipper	
Place and date		1			and date	
		Directori			dson, NH, 1-JAN	-2020
Signature of declarant		Driver's signature			ture of declarant eo Traverse	
		1		1 1	ie rinderse	







MULTIMODAL DANGEROUS GOODS FORM

1 Shipper/Consignor/Sender			2 Transport	document numb	er		
HAZMATEAM, INC			3 Page 1 of	2200	4 Shinner's	alaranaa	
12 KIMBALL HILL ROAD			3 Page 1 of	pages 1	4 Shipper's	reference	
HUDSON NH 03051 USA			Booking Nun	nber	5 Freight fo	rwarder's i	reference
6 Consignee			7 Carrier				
HAZMATEAM - NETHERLA	ANDS						
ZANDERSTEEN 66							
2669 VL AMSTERDAM NET		DS		IF USING	5 3 rd PA	RTY E	R PHONE
				SERVICE	, INCLU	DE CO	NTRACT
10 Vessel	11 Port of	loading	SHIPPER'S	NUMBE	<mark>R, FOR I</mark>	NTER	
			I hereby dec ty the Prope		USE 80	<mark>0 NUN</mark>	ABERS ely described below
			are in all res	pects in proper o		tran	cording to the applicable international and
12 Port of discharge	13 Destina	tion	-	ernment regulation		<u> </u>	
12 Poir of discharge	15 Destina		5 Additional	nandling instruct	uons		
			24 HR EF	R - INFOTRAC	: 1-011-352	2-323-350	00; Contract ID – 123S3B
14 Shipping marks	*) Numbe	r and kind of package	s: description	of goods		Gross mas	ss (kg) Net Cube (m ³)
				TTEDIES	•	5000	KG 2500 KG
	UN 3	480, LITHIUN	I ION BA	TERIES	, 9		
IMDG EMS –	IMDO	EMS: F-A, S	S-I; ERG	147			
COLUMN 15		4G) FIBREBO	•				
OF DGL	200 (JAES			
DOT ERG –							
'ORANGE		PACKAGE					
BOOK' CODE		CODES					
BOOK CODE		(EX – 4G)				BO	X 22 ALWAYS
		•					
		OPTIONAL	•			REC	QUIRES A
						SIG	NATURE BY
IF LOADING	G FRE	IGHT				TR/	AINED SHIPPER
	POV	20					
CTN, SIGN	BUX	20					
15 Container identification No./	16 Seal nu	mber(s)	17 Cont./veh	icle size & type	18 Tare m	ass (kg)	19 Total gross mass (including tare) (kg)
CONTAINER/VEHICLE PACKING	CERTIFIC	ATE	21 RECEIVI	NG ORGANIZA	TION RECEI	PT	
I hereby declare that the good packed/loaded, packed togethe			Received the	above number	of packages	containers	strailers in apparent good order and condition
identified above in accordance with	h the applica	able provisions.**)	unless stated	hereon: RECE	IVING ORGA	NIZATION	s/trailers in apparent good order and condition, NREMARKS:
MUST BE COMPLETED AND SI VEHICLE LOADS BY PERSON F LOADING						_	
20 Name of company			Haulier's nan	ne		22	2 Name of co. of shipper preparing this note
HAZMATEAM, INC			Vehicle reg.	no		۲	IAZMATEAM
Name (status of status)			Circuit	d data			
Name/status of declarant Paul Dambek, Shipper			Signature an	a date			ame/status of declarant .eo Traverse, Shipper
Place and date			1				ace and date
Hudson, NH, 1-JAN-2020							Hudson, NH, 1-JAN-2020
Signature of declarant			Driver's signa	ature			gnature of declarant
Paul Dambek							Leo Traverse







<u>UN 3480:</u> 5 Packages of rechargeable lithium batteries (no equipment), each box contains 5 kg of batteries; <u>UN 3090</u>: 10 packages of non-rechargeable lithium batteries (no equipment), each box contains 3 KG of batteries. The 15 packages are placed on pallet and shrunk wrapped. The overpack was sent to a freight forwarder

		MULTIMODA	L DAN	GERC	DUS	GOO	DS I	-ORM	
1 Shipper/Consignor/Sende	r		2 Transport d	ocument numb	ber				
HAZMATEAM, INC			3 Page 1 of	pages	4 Shipper	r's reference			
12 KIMBALL HILL ROA				1					
HUDSON NH 03051 US	A		Booking Num	ber	5 Freigh	t forwarder's	reference	Ð	
6 Consignee	_		7 Carrier						
HAZMATEAM - NETHE	RLAN	IDS							
ZANDERSTEEN 66									
2669 VL AMSTERDAM	NETH	IERLANDS		IF USIN					
10 Vessel	1	1 Port of loading	SHIPPER'S	NUMBE	R, FOI	R INTER	NATIO	ONAL	sky described below
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			are in all resp national gover	nment regulati	ions.			,pp	Die international and
12 Port of discharge	13	3 Destination	9 Additional h	andling instruc	tions				
			24 HR ER	- INFOTRAC	C 1-011-3	352-323-35	00; Cor	ntract ID – 1	23S3B
14 Shipping marks		*) Number and kind of package	s: description o	f goods		Gross ma	uss (kg) I	Net	Cube (m ³)
IMDG EMS –		UN 3480, LITHIUN		TTEDIES	• •	50 K	G	25 KG	
COLUMN 15					, 5				
OF DGL		IMDG EMS: F-A, S	•						
		5 (4G) FIBREBOA	RD BOXE	ES					
DOT ERG –									
'ORANGE		UN 3090, LITHIUN	METAL	BATTER	RIES. S	120	KG	30 KG	
BOOK' CODE		IMDG EMS: F-A, S							
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OPTIONAL						SIGN	ΙΑΤΙ	JRE B	1
						TRA	INE	D SHIP	PER
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15 Container identification N	0./ 16	6 Seal number(s)	17 Cont./vehic	cle size & type	18 Tare	mass (kg)	19 Tot	tal gross mass	(including tare) (kg)
CONTAINER/VEHICLE PAC I hereby declare that the		CERTIFICATE described above have been	21 RECEIVIN	IG ORGANIZA	TION REC	EIPT			
packed/loaded, packed to identified above in accordance	gether, e with t	into the container/vehicle the applicable provisions.**)	Received the unless stated	above number hereon: RECE	of packag IVING OR	es/containe GANIZATIO	s/trailers N REMAI	in apparent go RKS:	od order and condition,
		NED FOR ALL CONTAINER/ ESPONSIBLE FOR PACKING/							
20 Name of company			Haulier's name	Ð		2	2 Name	of co. of shippe	er preparing this note
			Vehicle reg. n	0			HAZMA	TEAM, INC.	
Name/status of declarant			Signature and	date				us of declarant 1ie Traverse	
Place and date						F	Place and	date	
Signature of declarant			Driver's signat	ure				n, NH, 1-JA	AN-2020
			Sector & agrica			ſ	-	oh Trave	erse









2 FIBREBOARD BOXES. Each box contains 4 KG net of FULLY REGULATED lithium metal batteries shipped according to IATA PI 968 Section IA

12	ZMATEAM, INC KIMBALL HILL ROAD DSON, NH 03051				Air Waybill No. 6980 Page 1 of 1 M Shipper's Reference No (optional)	Pages	
1: P	HOENIX PARTS 23 MAIN STREET HOENIX, AZ 77777			DE	RWAYBILL #, AIRPC PARTURE OR DEST N BE COMPLETED	INATIO	
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Airport of I	Destination PHOENIX, AZ				Shipment Type (delete non-ap		
					NON-RADIOACTIVE	XXXX	Е
NATURE A	ND QUANTITY OF DANGEROUS GOODS						
	Dangerous Goods Identification		Class			Deshine	
UN or ID No.	Proper Shipping Name		Class or Division (Subsidiary Hazard)		Quantity and Type of Packing	Packing Instruc- tions	Authorizatior
UN 3090	LITHIUM METAL BATTERIES		9		2 FIBREBOARD BOXES x 4 KG	968	
				NUI	MBER OF		
ICAO/I/	ATA ERG CODE FROM COLUMN N	OF DGL;		PAC	KAGES X NET		
DOT ER	G – 'ORANGE BOOK' CODE			wт	PER PACKAGE		
	$\overline{\mathbf{V}}$						
Additional F	Iandling Information ICAO/IATA ERG CODE	: E: 12FZ; D	OT ERG	38		ii.	
Emergency '	Telephone Number INFOTRAC, 800-535-5	5053 (CON	ITRACT 1	2345)			
I hereby dec	lare that the contents of this consignment are	ccurately		of signa			
IF USIN	ove by the proper shipping name, and are clas G 3 RD PARTY ER PHONE SERVICE, E CONTRACT NUMBER	packaged, tion for mental ts have	Date		1-JAN-2020		
			Signati				









One box contains 2 KG net of SMALL lithium metal batteries shipped according to IATA PI 968 Section IB. Cannot exceed 2.5 kg (net) per pkg.

12	ZMATEAM, INC KIMBALL HILL ROAD DSON, NH 03051					Air Waybill N Page 1 o Shipper's Ref (op	f 1 F	ages	
12	HOENIX PARTS 23 MAIN STREET HOENIX, AZ 77777					AIRWAYBI DEPARTUR CAN BE CO	RE OR	DESTI	NATION
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NATURE A	ND QUANTITY OF DANGER	DUS GOODS							
UN or ID No.	Dangerous Go Proper Shipping N	ods Identification Jame		Class or Division (Subsidiary Hazard)	Group	Quantity an of Pack		Packing Instruc- tions	Authorization
UN 3090	LITHIUM METAL B	ATTERIES		9		1 FIBREBOA BOX x 2 KG	RD	968 IB	
•	ERG CODE FROM ('ORANGE BOOK' (DGL;	PA NE	CKA T W	ER OF GES X F PER	SEC		HIPPING IB, MUS 'IB'.
	andling Information ICAO/I	$\overline{\Box}$	2FZ; C		CKA(GE		I ADD THOR	TIVELY) 'IB' TO IZATION
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12	AZMATEAM, INC KIMBALL HILL ROAD JDSON, NH 03051		Air Waybill No. Page 1 of 1 H Shipper's Reference Nu (optional)	-		
1	GIZMO EMPORIUM 9 BOWDOIN STREET 8LOOMINGTON, IL 61761			DEP	WAYBILL #, AIRPO ARTURE OR DEST I BE COMPLETED	INATION
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Airport of	Destination				Shipment Type (delete non-ap,	plicable)
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NATURE A	AND QUANTITY OF DANGEROUS GOOI	DS				
	Dangerous Goods Identii	fication	<u></u>	· · · · · · · · · · · · · · · · · · ·		Desking
UN or D No.	Proper Shipping Name		Class or Division (Subsidiary Hazard)	Group	Quantity and Type of Packing	Packing Instruc- tions
UN 3480	LITHIUM ION BATTERIES				5 FIBREBOARD BOXES x 20 KG	965
-	ERG CODE FROM COLUN 'ORANGE BOOK' CODE	IN N OF DGL	.;		AGES X NET PER PACKAGE	
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	Handling Information ICAO/IATA ER	G CODE: 12FZ;	DOTERO	6 147		
Additional I Amergency	Telephone Number INFOTRAC, 80	0-535-5053 (CC	ONTRACT			
Additional I Emergency USING		0-535-5053 (CC <mark>RVICE,</mark>			Stopha	anie Traverse







2 Fibreboard boxes each containing 9 KG (net) of SMALL lithium ion batteries shipped according to IATA PI 965 Section IB

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	t requirements hav		re	1-	JAN-202	20
	SERVICE,		of Signate	ory Si	tephanie	Traverse
Telephone Number INFOTRAC, 800-	535-5053 (CC					
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Handling Information IOAO/IATA EBO			147			HORIZATION
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					WH	EN SHIPPING
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LITHIUM ION BATTERIES		9				965 IB
		(Subsidiary Hazard	Group		-	tions
Proper Shipping Name		Class or Division	Packing			Packing Instruc-
Dangerous Goods Identificat	ion					
and quantity of dangerous goods		-				
				NON-RADIOAC	rive 🗙	XXXX
f Destination				Shipment Type (d	lelete non-appl	licable)
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PORT I TAILS						
I PASSENGER AIR	nded to t	he operator.		WARNING		
19 BOWDOIN STREET BLOOMINGTON, IL 61761						
GIZMO EMPORIUM						
UDSON, NH 03051				Shipper's Rei	ference Nur	-
2 KIMBALL HILL ROAD				Air Waybill N Page 1 c		ares
	UDSON, NH 03051 GIZMO EMPORIUM 19 BOWDOIN STREET BLOOMINGTON, IL 61761 IPMENT CANNOT GC I PASSENGER AIR PORT I TAILS nent is within the limitations prescribed for: applicable CARGO AIRCRAFT ONLY T Destination AND QUANTITY OF DANGEROUS GOODS Dangerous Goods Identificat Proper Shipping Name LITHIUM ION BATTERIES AERG CODE FROM COLUMN - 'ORANGE BOOK' CODE Handling Information ICAO/IATA ERG Telephone Number INFOTRAC, 800- UDING 3 RD PARTY ER PHONE LUDE CONTRACT NUMBER	UDSON, NH 03051	AND QUANTITY OF DANGEROUS GOODS CARGO AIRCRAFT ONLY Poper Shipping Name Class or Division Class or Divis	UDSON, NH 03051 GIZMO EMPORIUM 19 BOWDOIN STREET BLOOMINGTON, IL 61761 IPMENT CANNOT GO J PASSENGER AIR PORTI TAILS T	UDSON, NH 03051 Page 1 Shipper's Reside GIZMO EMPORIUM 19 BOWDOIN STREET BLOOMINGTON, IL 61761 AIRWAYBI DEPARTUL CAN BE CO IPMENT CANNOT GO 1 PASSENGER AIR Ided to the operator. WARNING PORTI 1 TAILS Ided to the operator. WARNING PORTI 1 TAILS Ided to the operator. WARNING Port I 1 TAILS Airport of Departure Pailure to co applicable Port I 1 TAILS Airport of Departure Pailure to co applicable Pailure to co applicable Proper Shipping Name Class (Subbidary 0 Class Quantity ar of Pack BOXES X 9 M LITHIUM ION BATTERIES 9 2 FIBREBOA BOXES X 9 M PackaGES X NET WT PER PACKAGES X NET WT PER PACKAGE NUMBER OF PACKAGES X NET WT PER PACKAGE Handling Information (CAO/IATA ERG CODE: 12FZ; DOT ERG 147' Signature Handling Information (ICAO/IATA ERG CODE: 12FZ; DOT ERG 147' Signature	UDSON, NH 03051 Page 1 of P. Sizmo EMPORIUM 19 BOWDOIN STREET BLOOMINGTON, IL 61761 AIRWAYBILL #, AI DEPARTURE OR IL CAN BE COMPLET IPMENT CANNOT GO 1 PASSENGER AIR WARNING PORTI TAILS Mded to the operator. WARNING PORTI TAILS Airport of Departure WARNING PORTI TAILS Airport of Departure WARNING Port I TAILS Shipment Type (ddde see-operator. ONLY WARNING Port I TAILS Airport of Departure WARNING Proper Shipping Name Shipment Type (ddde see-operator. ONLY WARNTHY OF DANGEROUS GOODS Dangerous Goods Identification Class of Division Quantity and Type of Packing Or Division Quantity and Type of Packing LITHIUM ION BATTERIES 9 2 FIBREBOARD BOXES x 9 KG WHI SECT Package BOOK' CODE PACKAGE X NET WT PER PACKAGE WHI SECT Handling Information ICAO/IATA ERG CODE: 12FZ; DOT ERG 147 Telephone Number INFOTRAC, 800-535-5053 (CONTRACT 12345) Stephanie 1 JAN-202 Signature Date 1 JAN-202









10 boxes of UN 3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT. Shipped according to IATA PI 967 Section I. Each box contains 4 KG (net) of rechargeable lithium batteries. All 10 boxes placed onto a pallet and shrunk wrapped (i.e., 'OVERPACK').

INCLUDE CONTRACT NUBER regulations. Fuectare that an of the applicable air transport requirements have been met.				Signature Brock Holt				
	NG 3 RD PARTY ER PHONE SI	ERVICE,	Name o Date	f Signato	BROCKHOLI			
Emergency	Telephone Number INFOTRAC, 800-	535-5053 (C	ONTRACT	12345)			
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				PACKAGES X NET		MUST USE PHRA		
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					OVERPACK USED			
UN 3481	LITHIUM ION BATTERIES CO	ONTAINED	9	7	10 FIBREBOARD BOXES x 4 KG	967		
UN or ID No.	Proper Shipping Name		or Division (Subsidiary Hazard)	Packing Group	of Packing	Instruc- tions	uthorization	
IDI	Dangerous Goods Identifica	tion	Class		Quantity and Type	Packing		
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AIRCRA Airport of	FT ONLY Destination				Shipment Type <i>(delete non-</i>	-abblicable)		
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^{Consignee} GIZMO EMPORIUM 19 BOWDOIN STREET BLOOMINGTON, IL 61761					CAN BE COMPLETED BY AIRLINE			
					AIRWAYBILL #, AIRPORTS OF DEPARTURE OR DESTINATION			
					(optional)		0.5	
HUDSON, NH 03051					Page 1 of 1 Pages Shipper's Reference Number			
Shipper HAZMATEAM, INC 12 KIMBALL HILL ROAD				Air Waybill No.				









4 packages of UN 3091, Lithium metal batteries packed with equipment. Shipped according to IATA PI 969 Section I. Each package contains 6 KG (net) of non-rechargeable lithium batteries and equipment (batteries not installed). Shipped out of USA.

12	ZMATEAM, INC KIMBALL HILL ROAD DSON, NH 03051 USA	Air Waybill No. Page 1 of 1 Pages Shipper's Reference Number (optional)			
V V O	ATTERIES ITALIA IALE CASTRO PRETORIO 199 OF IA GAETA 99 0188 ROME ITALY	AIRWAYBILL #, AIRPORTS OF DEPARTURE OR DESTINATION CAN BE COMPLETED BY AIRLINE			
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PACKAGE EXCEEDS 5 KG NET OF BATTERIES				Failure to comply	in all respects with the
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Airport of	Destination			Shipment Type <i>(delete t</i> NON-RADIOACTIVE	
NATURE A	ND QUANTITY OF DANGEROUS GOODS				
TTNT I	Dangerous Goods Identification	on	Class	Quantity and Ty	ne Packing
UN or D No.	Proper Shipping Name		or Division I (Subsidiary Hazard)	acking	pe Instruc- tions
UN 3091	LITHIUM METAL BATTERIES I WITH EQUIPMENT	PACKED	9	4 FIBREBOARD BOXES x 6 KG	969
				NUMBER OF	
				NUMBER OF PACKAGES X NE	т
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SHIPPING PAPER EXAMPLES



EMERGENCY RESPONSE INFORMATION

When shipping papers (Bill of lading forms, Dangerous Goods Declaration forms) are required, all lithium battery shipments to, from or through the United States must have written emergency response information accompany the shipment. This written document is typically either a SDS for the material or the applicable ERG pages from the DOT Emergency Response Guidebook (i.e., 'Orange Book'). Applicable ERG Codes from the Orange Book are: Guide 138 (Lithium metal batteries) and Guide 147 (Lithium Ion batteries).

On each shipping paper example provided in this guide, either DOT ERG GUIDE 138 or 147 is referenced. Simply writing the guide number only on the BOL/declaration does not meet the emergency response information requirements described in <u>49 CFR 172.602</u>. Written information (the SDS or ERG pages) must be provided along with the shipping paper.

All shipping papers for shipments from, to or through the United States must also have 24-hour emergency telephone number, as described in <u>49 CFR 172.604</u>. Each shipping paper example provided in this guide illustrates placement of the ER phone number.

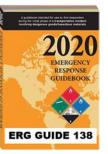
The shipping paper examples provided in this guide also reference emergency response guidebooks used by personnel on vessels or aircraft. The vessel and aircraft guides referenced are:

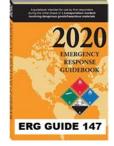
IMDG CODE: The EMS Code referenced in column 15 of the IMDG Dangerous Goods List (DGL) is listed in *"The EmS Guide – Emergency Response Procedures for Ships Carrying Dangerous Goods".*

IATA DGR: The IACO/IATA ERG Code referenced in Column N of the IATA DGR Dangerous Goods List (DGL) is the Emergency Response Drill Code as found in the International Civil Aviation Organization (IACO) document, *"The Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods" (ICAO Doc. 9481-AN/928*).

The IMDG Code and IATA DGR emergency response information described on the shipping paper examples in this guide are for the benefit of the operator of the vessel or aircraft.



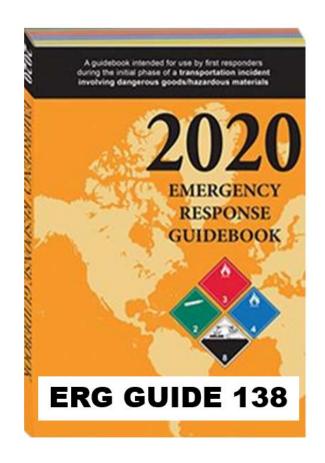




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EMERGENCY RESPONSE GUIDE #138 – NEXT PAGE

(THIS DOCUMENT OR A SDS FOR BATTERY MUST ACCOMPANY ALL FULLY REGULATED SHIPMENTS OF LITHIUM METAL BATTERIES)







SHIPPING PAPER EXAMPLES						
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GUIDE SUBSTANCES - WATER-REACTIVE (EMITTING FLAMMABLE GASES)

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- Produce flammable gases on contact with water.
- May ignite on contact with water or moist air.
- Some react vigorously or explosively on contact with water.
- May be ignited by heat, sparks or flames.
- May re-ignite after fire is extinguished.
- Some are transported in highly flammable liquids.
- Runoff may create fire or explosion hazard.

HEALTH

- Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death.
- May produce corrosive solutions on contact with water.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

PUBLIC SAFETY

- CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate the area before entry.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Spill

• See Table 1 - Initial Isolation and Protective Action Distances for highlighted materials. For nonhighlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

• If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.



In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping document and/or the ERAP Program Section (page 391).

SUBSTANCES - WATER-REACTIVE (EMITTING FLAMMABLE GASES)

GUIDE

138

EMERGENCY RESPONSE

FIRE

• DO NOT USE WATER OR FOAM.

Small Fire

• Dry chemical, soda ash, lime or sand.

Large Fire

- DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.
- Move containers from fire area if you can do it without risk.

Fire Involving Metals or Powders (Aluminum, Lithium, Magnesium, etc.)

 Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-X[®] powder; in addition, for Lithium you may use Lith-X[®] powder or copper powder. Also, see GUIDE 170.

Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

• DO NOT GET WATER on spilled substance or inside containers.

Small Spill

- Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- Dike for later disposal; do not apply water unless directed to do so.

Powder Spill

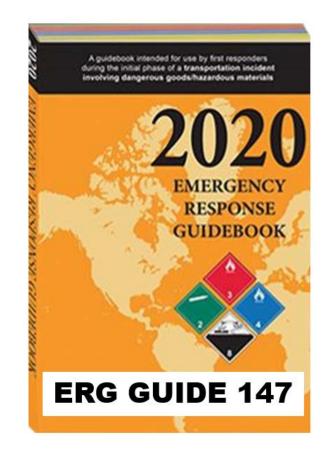
- Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
- DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes.
- Keep victim calm and warm.

EMERGENCY RESPONSE GUIDE #147 – NEXT PAGE

(THIS DOCUMENT OR A SDS FOR BATTERY MUST ACCOMPANY ALL FULLY REGULATED SHIPMENTS OF LITHIUM ION BATTERIES)







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GUIDE LITHIUM ION BATTERIES

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- Lithium ion batteries contain flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (> 150 °C (302 °F)), when damaged or abused (e.g., mechanical damage or electrical overcharging).
- May burn rapidly with flare-burning effect.
- May ignite other batteries in close proximity.

HEALTH

- Contact with battery electrolyte may be irritating to skin, eyes and mucous membranes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Burning batteries may produce toxic hydrogen fluoride gas (see GUIDE 125).
- Fumes may cause dizziness or suffocation.

PUBLIC SAFETY

- CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

EVACUATION

Large Spill

• Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

• If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also initiate evacuation including emergency responders for 500 meters (1/3 mile) in all directions.

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EMERGENCY RESPONSE

FIRE

Small Fire

• Dry chemical, CO₂, water spray or regular foam.

Large Fire

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Absorb with earth, sand or other non-combustible material.
- Leaking batteries and contaminated absorbent material should be placed in metal containers.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.



PACKAGE TEST REQUIREMENTS

Most fully regulated packages of lithium batteries and cells require UN Specification packaging.

All packages of small and medium lithium batteries require some degree of testing. However, small and medium lithium batteries and cells do not require UN Specification packaging

The following pages summarizes package test requirement for the different sizes of batteries shipped via ground (USA), air and vessel.

HAZMATEAM, INC. offers package testing services. Call 603-882-1112 for more information or for a quote.

To determine package test requirements, select (click) one of the following

- <u>Small or Medium lithium batteries shipped ground domestic USA</u>
- Small lithium batteries shipped international air
- <u>Small lithium batteries shipped international vessel</u>
- <u>Fully regulated, damaged or prototype lithium batteries requiring UN specification</u> <u>packaging</u>





SMALL AND MEDIUM LITHIUM BATTERIES SHIPPED USA GROUND¹

PACKAGE	VIBRATION TEST ²	DROP TEST ³
Small UN 3480		\bigcirc
Small UN 3090	- Č	- Č
Small UN 3481, "packed with"	$\overline{\mathbf{O}}$	$\overline{\mathbf{O}}$
Small UN 3481, "contained in"	\bigcirc	
Small UN 3091, "packed with"	\bigcirc	\bigcirc
Small UN 3091, "contained in"	\bigcirc	
Medium UN 3480	\bigcirc	\bigcirc
Medium UN 3090	\bigcirc	\bigcirc
Medium UN 3481, "packed with"	\bigcirc	\bigcirc
Medium UN 3481, "contained in"	\bigcirc	
Medium UN 3091, "packed with"	\bigcirc	\bigcirc
Medium UN 3091, "contained in"	\bigcirc	

- 1- Does not require UN Specification packaging
- 2- 173.185 (b)(1) references 49 CFR 173 Subpart B. 49 CFR 173 Subpart B includes 49 CFR 173.24a(a)(5) vibration testing
- 3- 49 CFR 173.185 (c)(2)







SMALL LITHIUM BATTERIES SHIPPED AIR¹

PACKAGE	VIBRATION TEST ²	DROP TEST ³
Small UN 3480		
Small UN 3090	- Č	Output to the second
Small UN 3481, "packed with"	\bigcirc	\bigcirc
Small UN 3481, "contained in"	\bigcirc	
Small UN 3091, "packed with"	\bigcirc	\bigcirc
Small UN 3091, "contained in"	\bigcirc	

- 1- Does not require UN Specification packaging
- 2- Section IB of IATA PI 965 & 968 and Section II of PI 965- 970 requires compliance with IATA DGR 5.0.2.4. IATA 5.0.2.4 requires shippers to ensure package is capable of withstanding vibrations normally encountered in transport.
- IATA DGR, PI 965 Section IB, PI 965 Section II, PI 966 Section II, PI 968 Section IB, PI 968 Section II and PI 969 Section II







SMALL LITHIUM BATTERIES SHIPPED VESSEL¹

PACKAGE	VIBRATION TEST ²	DROP TEST ³
Small UN 3480		\bigcirc
Small UN 3090	Optimized and the second se	$\overline{\mathbf{O}}$
Small UN 3481, "packed with"	- Č	Output to the second
Small UN 3481, "contained in"	- Č	
Small UN 3091, "packed with"	- Č	\bigcirc
Small UN 3091, "contained in"	 Image: A start of the start of	

- 1- Does not require UN Specification packaging
- 2- IMDG Special Provision 188 paragraph 4 references IMDG 4.1.1.1. IMDG 4.1.1.1 requires shippers to ensure package is capable of withstanding vibrations normally encountered in transport.
- 3- IMDG Special Provision 188 paragraph 7





FULL REGULATED, DAMAGED OR PROTOTYPE LITHIUM BATTERIES REQUIRING

PACKAGE ²	AIR TRANSPORT	VESSEL	DOMESTIC USA
		TRANSPORT	GROUND TRANSPORT
	HAZMATEAM	HAZMATEAM	HAZMATEAM
Fully regulated UN 3480		\bigcirc	
Fully regulated UN 3090	\odot	\bigcirc	\bigcirc
Fully regulated UN 3481, "packed with"		\odot	\bigcirc
Fully regulated UN 3481, "contained in"	Note 3	Note 4	Note 5
Fully regulated UN 3091, "packed with"			
Fully regulated UN 3091, "contained in"	Note 3	Note 4	Note 5
Damaged or defective batteries	Note 6	Note 7	Note 8
Prototype Batteries	Note 9	Note 10	Note 11
Lithium batteries weighing 12 KG or more with strong, impact resistant casing	Note 12	Note 13	Note 14

PACKAGING¹

- 1- Unless otherwise specified, must meet PG II performance standards ("X" or "Y" rated packages).
- 2- Assemble according to package closure instructions
- 3- UN packaging not required. IATA 5.0.2.4 requires shippers to ensure package is capable of withstanding vibrations normally encountered in transport.
- 4- UN packaging not required. IMDG 4.1.1.1 requires shippers to ensure package is capable of withstanding vibrations normally encountered in transport.
- 5- UN packaging not required. 49 CFR 173.24a(a)(5) requires shippers to ensure package is capable of withstanding vibrations normally encountered in transport.
- 6- Forbidden for air transport, see IATA SP A154
- 7- Packaged according to IMDG P908
- 8- Packaged according to 49 CFR 173.185 (f) at the PG I performance level ("X" package)
- 9- Forbidden for air transport, unless approval from state of origin see IATA SP A88
- 10- Packaged according to IMDG P910
- 11- Packaged according to 49 CFR 173.185 (e) at the PG I performance level ("X" package)
- 12- UN 3480 and UN 3090 weighing 12 kg or more with strong, impact resistant casing does not require UN packaging. Must have gov't approval. Otherwise, use UN package. See IATA PI 965 and PI 968.
- 13- UN 3480 and UN 3090 weighing 12 kg or more with strong, impact resistant casing does not require UN packaging. See IMDG P903, paragraph (2).
- 14- UN 3480 and UN 3090 weighing 12 kg or more with strong, impact resistant casing does not require UN packaging. See 49 CFR 173.185 (b)(4)





DISCLAIMER

This guide provides a summary of Dangerous Goods (DG) regulatory transportation requirements, and does not address product use. HAZMATEAM, INC shall not be held liable for any damage resulting from handling or from contact with the products described in this guide.

The user of this guide must be trained and use the classification, packaging instructions and guidance in the most recent versions of the applicable DG regulations (IMDG, IATA, ICAO, 49 CFR and/or other country specific DG regulations). The user must also consult the battery/equipment manufacturer for item specific transportation safety requirements (including verification a lithium battery has been UN tested). This guide does not address waste shipments: consult federal and state waste regulations for shipping requirements.

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