

### IMDG Code Shipping Instructions for OCEAN Transportation **LITHIUM BATTERIES** **(UN3090, UN3091, UN3480, UN3481)** (Packing Instruction P903 → Fully regulated cells & batteries)

**ONLY TRAINED HAZMAT EMPLOYEES MAY SHIP LITHIUM BATTERIES USING THIS GUIDE.**

Some batteries are regulated when shipped or offered for transportation. If the battery is restricted, then all applicable hazardous materials regulations must be met. This guide provides information to assist you in how to ship the battery by vessel.



#### How can I tell if the battery is regulated?

Batteries normally have the size listed directly on the battery case which will help you identify whether or not it can be shipped without special packaging and package marking; in other words, shipped as non-restricted in transportation.



These instructions have been specifically prepared for the shipment of **fully regulated lithium batteries assigned to UN3090, UN3091, UN3480 & UN3481**, in compliance with the provisions in P903 of the IMDG Code, Amendment 42-24 (voluntary application 01/01/2025; mandatory application 01/01/2026).

**DO NOT USE THESE SHIPPING INSTRUCTIONS FOR OTHER BATTERY TYPES.**

*All employees are responsible for compliance with applicable domestic and international dangerous goods transport regulations. All employees must be dangerous goods training prior to using this shipping template. All information in this shipping template is accurate through the date of revision and must be validated against the regulations yearly and updated as regulations change.*



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**FULLY REGULATED LITHIUM BATTERIES**  
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**DESCRIPTION**

**Items**

*(Identify and insert the description of items that may be shipped utilizing this template in this section.)*

**SHIPPING BY OCEAN VESSEL (IMDG Code)**

**Shipping Location**

Transport by Ocean Vessel

**Shipping Company**

*(Identify in this section the carriers used and carrier requirements)*

(i.e., Vessel Operators, such as Hapag Lloyd, Maersk, APL, China Shipping, etc.)

**NOTE**

Damaged, defective or recalled cells or batteries, that have the potential of producing a dangerous evolution of heat, fire, or short circuit (including those being returned to the manufacturer for safety reasons) and are offered for vessel transport must be prepared in accordance with the provisions detailed in packing instruction P908 of the IMDG Code.

Batteries meant for disposal or recycling must be prepared in accordance with the provisions in packing instruction P909 of the IMDG Code.

**CLASSIFICATION**

**UN Number & Proper Shipping Name** (select the most appropriate)

- UN3090, LITHIUM METAL BATTERIES
- UN3091, LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT
- UN3091, LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT
- UN3480 LITHIUM ION BATTERIES
- UN3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
- UN3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

**Battery Testing Data**

LITHIUM ION CELLS OR BATTERIES MUST MEET THE REQUIREMENTS OF EACH TEST IN THE *UN Manual of Tests and Criteria, Part III, subsection 38.3.*

**Battery Test Summary**

A battery test summary complying with the requirements of the UN Manual of Tests and Criteria, Part III, Subsection 38.3, Paragraph 38.3.3.5 is required to prove all cells/batteries have been properly tested.

The battery test summary is not a transport document and is not required to be provided as a transport document. However, carriers may request a copy be provided.

**Site Testing Data**

*(Insert the location of battery testing documentation and/or attach to the shipping instructions)*

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**CLASSIFICATION**

**Special Provisions**

- UN3090 – 188, 230, 310, 376, 377, 384, 387
- UN3091 – 188, 230, 310, 360, 376, 377, 384, 387, 390
- UN3480 – 188, 230, 310, 348, 376, 377, 384, 387
- UN3481 – 188, 230, 310, 348, 360, 376, 377, 384, 387, 390

**PACKAGING**

**Packing Instruction**

P903

**General Provisions**

- Must comply with the general provisions of 4.1.1 and 4.1.3, including:
- Good quality packaging to withstand the shocks and loading normally encountered during transport.
  - Constructed and closed to prevent loss of contents.
  - Closed in accordance with the manufacturer's instructions.
  - No dangerous goods residue on the outside.
  - Cushioning material

**Short Circuit Prevention**

*The site must identify and insert information on how this will be done for applicable shipments.*

Protect cells and batteries against short circuits (e.g., placing a single battery in a plastic bag, then placing it in a package).

OR

Secure cells or batteries in the equipment to ensure they do not separate from the equipment during transport (e.g., using tape or other means to secure cell or battery).

THE CELLS OR BATTERIES MUST INCORPORATE A SAFETY VENTING DEVICE OR BE DESIGNED NOT TO RUPTURE UNDER THE NORMAL CONDITIONS OF TRANSPORT.

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).

### PACKAGING

#### Option 1

(Use for lithium batteries shipped by themselves and those packed with equipment)

LITHIUM CELLS AND BATTERIES MUST BE PACKED IN COMBINATION PACKAGING.

Each lithium cells and batteries must be packed in a non-metallic inner packaging that completely encloses them and separates them from contact with equipment, other devices or conductive materials in the outer packaging. Cells and batteries must be packaged in a manner to prevent short circuits, movement within the outer package, and accidental activation of the equipment.

#### Option 1A

For lithium batteries shipped by themselves, the inner packagings must be packed in UN specification outer packagings at a PG II performance level.

#### Option 1B

For lithium cells and batteries packed with equipment, the inner packagings must be packed:

- in a PG II outer packaging, then placed with the equipment in a strong, rigid outer packaging, or
- with the equipment in a PG II outer packaging.

For options 1A & 1B, the following UN specification outer packagings:  
metal boxes (4A, 4B or 4N); wooden boxes (4C1, 4C2, 4D, or 4F);  
fibreboard boxes (4G); solid plastic boxes (4H1 or 4H2); fibre drums (1G);  
metal drums (1A2, 1B2 or 1N2); plywood drums (1D) or plastic drum (1H2);  
plastic jerricans (3H2); or metal jerricans (3A2 or 3B2).

Sample UN Spec Mark for PG II Fibreboard Box



4G/Y35/S/26  
USA/++AB1234

Packaging must meet PG II performance standard as indicated by "Y" (or PG I performance standard as indicated by "X") in the UN specification marking.



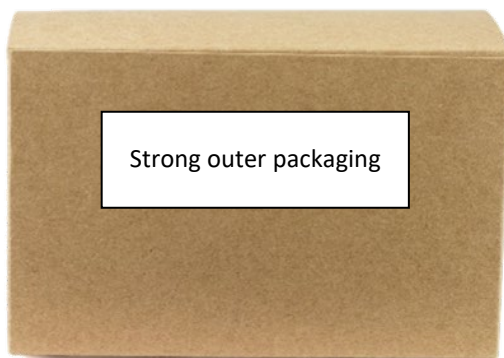
### PACKAGING

**Option 2**

(Use for lithium batteries contained in equipment)

No UN specification packaging is required for lithium cells or batteries contained in equipment provided:

- The equipment must be secured within a strong outer packaging and be packed to prevent movement, short circuits, and accidental operation during transport.
- Spare batteries are not permitted to be packed with equipment using this guide (see option **1B** of this guide for shipping lithium batteries packed with equipment).



**Type of Packaging**

*(Insert the type of packagings to be used. In addition, insert closure instructions or location of the closure instructions to be used.)*

**Batteries with gross mass of  $\geq$  12kg**

Batteries with a gross mass of 12 kg or greater and assemblies of such batteries may be packed in strong, impact-resistant outer casing (or assemblies of such batteries) may be transported when packed in strong outer packagings, in protective enclosures (e.g. in fully enclosed or wooden slatted crates) unpackaged or on pallets. Batteries must be secured to prevent inadvertent movement, and the terminals shall not support the weight of other superimposed elements.

*Batteries packaged in this manner are not permitted for transportation by passenger aircraft and may be transported by cargo aircraft only if approved by the Associate Administrator prior to transportation.*

### MARKING / LABELLING

#### Marking

Mark the package with the most appropriate UN number and proper shipping name (PSN):

- UN3090, LITHIUM METAL BATTERIES
- UN3091, LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT
- UN3091, LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT
- UN3480, LITHIUM ION BATTERIES
- UN3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
- UN3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

#### Labelling

Display the Class 9 Battery Label



**Example of completed package for transportation by vessel  
(UN3090, LITHIUM METAL BATTERIES):**





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**DOCUMENTATION**

<b>Document Type</b>	NO specific form is required by the IMDG Code, but specific information is required. Dangerous goods entries must be emphasized (e.g., listing them first or using an “X” in a column entitled DG).
<b>DG Identification</b>	The basic shipping description requires the UN number, proper shipping name (PSN), hazard class and packing group (when applicable). Select the most appropriate option for your shipment: <ul style="list-style-type: none"><li>• UN3090, LITHIUM METAL BATTERIES, 9</li><li>• UN3091, LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT, 9</li><li>• UN3091, LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, 9</li><li>• UN3480, LITHIUM ION BATTERIES, 9</li><li>• UN3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, 9</li><li>• UN3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, 9</li></ul>
<b>Total Quantity of DG</b>	Total quantity of dangerous goods by volume or mass of each item of DG and the number and kind of packages (e.g. 20 drums, 200 boxes)
<b>Sample Document</b>	See Multimodal Dangerous Goods Form on next page

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**MULTIMODAL DANGEROUS GOODS FORM**

This form may be used as a dangerous goods declaration as it meets the requirements of SOLAS 74, chapter VII, regulation 4; MARPOL 73/78, Annex III, regulation 4

1 Shipper/Consignor/Sender		2 Transport document number	
		3 Page 1 of _____ Pages	4 Shipper's reference
			5 Freight Forwarder's reference
6 Consignee		7 Carrier (to be completed by the carrier)	
		<b>SHIPPER'S DECLARATION</b> I hereby declare that the contents of this consignment are fully and accurately described below by the Proper Shipping Name, and are classified, packaged, marked and labelled/placarded and are in all respects in proper condition for transport according to the applicable international and national governmental regulations.	
8 This shipment is within the limitations prescribed for: (Delete non-applicable)		9 Additional handling information  <b>24 hour emergency contact number</b>	
PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY		
10 Vessel/flight no. and date	11 Port/place of loading		
12 Port/place of discharge	13 Destination		
14 Shipping marks      *Number and kind of packages; description of goods      Gross mass (kg)      Net mass (kg)      Cube (m <sup>3</sup> )			
<b>200 boxes, UN3090, LITHIUM METAL BATTERIES, 9,      F-A, S-I      2,000 kg</b>			
15 Container identification No./ vehicle registration No.	16 Seal number(s)	17 Container/vehicle size & type	18 Tare mass (kg)
		19 Total gross mass (including tare) (kg)	
<b>CONTAINER/VEHICLE PACKING CERTIFICATE</b>  I hereby declare that the goods described above have been packed/ loaded into the container/vehicle identified above in accordance with the applicable provisions. †  <b>MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING.</b>		21 RECEIVING ORGANISATION RECEIPT  Received the above number of packages/containers/trailers in apparent good order and condition unless stated hereon: RECEIVING ORGANISATION REMARKS:	
20 Name of company <b>Name of company responsible for packing the container/vehicle</b>		Haulier's name	
Name/Status of declarant <b>Name of individual</b>		Vehicle reg. no.	
Place and date <b>place and date</b>		Signature and date	
Signature of declarant <b>Signature of responsible individual</b>		DRIVER'S SIGNATURE	
		22 Name of company (OF SHIPPER PREPARING THIS NOTE) <b>Name of company preparing the document</b>	
		Name/status of declarant <b>Name of individual</b>	
		Place and date <b>place and date prepared</b>	
		Signature of declarant <b>Signature of individual preparing document</b>	

**\*DANGEROUS GOODS**

You must specify: Proper Shipping Name, hazard class, UN No., packing group, (where assigned) marine pollutant and observe the mandatory requirements under applicable national and international governmental regulations. For the purposes of the IMDG Code see 5.4.1.4

†For the purposes of the IMDG Code, see 5.4.2



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**TRAINING REQUIREMENTS**

**Training Requirements**

Shore-based personnel engaged in the transport of dangerous goods by sea shall be trained in the contents of the dangerous goods provisions commensurate with their responsibilities; training must include the following:

- *General awareness / familiarization training*
- *Function-specific training*
- *Safety training (recommendatory)*
- *Security awareness training*

**Initial training:** Employees shall be trained before assuming responsibilities and shall only perform functions for which required training has not yet provided under the direct supervision of a trained person.

**Recurrent training:** The training shall be periodically supplemented with refresher training to take account of changes in regulations and practice. Honeywell requires recurrent training every two years.

**STORAGE**

**Storage Location & Special Considerations**

*(Insert storage requirements or special considerations.)*

**REFERENCES**

**IMDG Code**

Amendment 42-24  
(*Voluntary use 01/01/2025; Mandatory use 01/01/2026*)

**Part 1** 1.3 – Training requirements  
1.4 – Security provisions

**Part 2** 2.9.4 - Lithium batteries

**Part 4** 4.1.4 – List of packing instructions (P903)

**Part 5** 5.2 – Marking and Labeling  
5.4 – Documentation

**Part 6** 6.1 – Provisions for the construction and testing of packagings

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