

IATA Dangerous Goods Regulations, 52nd Edition 1st January 2011 (Produced in consultation with ICAO)

This news update contains important information from IDX regarding the transportation of Lithium Ion batteries. The latest rules from IATA not only affect individuals carrying Lithium Ion batteries on-board civil aircraft, but also influence the way they are classified, labelled and packed when freighted as air cargo or transported by road freight.

What is IATA?

The International Air Transport Association (IATA) has existed since 1945, and in association with the International Civil Aviation Organisation (ICAO) and the United Nations (UN) set clearly defined rules regarding the air transportation of specific items including those deemed as hazardous or dangerous goods. More importantly, the IATA Dangerous Goods Regulations clarifies the laws surrounding how goods should be classified, marked, packed and labelled when you place in carry-on baggage (stored in the passenger cabin) or checked-in baggage on civil airlines. The laws also apply to goods that are air freighted and road freighted as cargo.

How does this affect Lithium Ion batteries?

The transportation of Lithium Ion batteries have their own set of set of regulations under IATA. IDX take these regulations very seriously, and we take every care to make sure air transportation of our batteries is not difficult or restricted in any way. Air travel is essential to many of our customers and broadcasters, so when global news stories break or major sports events need to be covered, they can jump on an airplane with the right amount of IDX batteries to power their camera for the whole event. For those aware of the previous regulation, the maximum lithium content per cell has been replaced by the watt hour (Wh) rating of the battery. Therefore, the 8g maximum lithium content has been replaced by a Wh rating of 100Wh, and the 25g maximum lithium content has been replaced by a Wh rating of 160Wh.

For users who wish to air freight their batteries as cargo, there are rules regarding the weight of each package, how the package is labelled and what information must accompany the batteries. Without a battery below 100Wh in capacity and without following these guidelines, preparing batteries for air freight can be a time consuming and costly procedure as they must be classified as CLASS 9 - MISCELLANEOUS DANGEROUS GOODS. This can lead to the shipper incurring extra costs for specialised packing and written documentation in the form of a Dangerous Goods Note, in addition to the physical freight costs. Happily, with IDX batteries this is not a problem.

What is the law regarding the transportation of Lithium Ion batteries on commercial airlines?

The 52nd edition of the IATA Dangerous Goods Regulations released on 1st January 2011 may be bad news for some battery users, but not those with IDX batteries. A summary of the regulations:

Lithium Ion Batteries less than 100Wh

You can safely carry on-board (stored in the passenger cabin) an unlimited amount of spare batteries, provided that you transport each battery separately in an insulated plastic bag, taking safety precautions to cover any exposed terminals with tape.

Lithium Ion Batteries over 100Wh but less than 160Wh

You can safely carry on-board (stored in passenger cabin) a maximum of **2** spare batteries, provided that you transport each battery separately in an insulated plastic bag, taking safety precautions to cover any exposed terminals with tape. There is no limit to the number of items of equipment that have batteries in this classification attached or installed but prior to any transportation full approval of the aircraft operator is required (spare or attached/installed batteries).

Lithium Ion Batteries over 160Wh

You are not allowed to carry on-board (stored in passenger cabin) any spare batteries over 160Wh under any circumstances.

Lithium Ion Batteries as Checked-In Baggage

You cannot check-in as baggage any spare batteries regardless of the battery Wh rating.

However, if your battery is less than 160Wh and is physically installed or attached to your camera or equipment you can transport this as checked-in baggage. However, prior to transportation full approval of the aircraft operator is required.

If your battery is over 160Wh you cannot check-in or carry-on under any circumstances, even if it is attached or installed to your camera or equipment. To transport batteries over 160Wh, you have to do so by shipping as separate cargo and classified as CLASS 9 - MISCELLANEOUS DANGEROUS GOODS.

What IDX batteries can I carry-on ?

IDX batteries are not affected by the IATA regulations and are all rated below 100Wh, which means you can carry-on an unlimited amount of spare batteries provided you follow the correct safety precautions. Please find below a list of IDX Lithium Batteries and their Wh rating:

Product	Wh Rating:	Product	Wh Rating:
ENDURA ELITE (PC-14 cartridge*)	68Wh	ENDURA-7S	68Wh
ENDURA-10	93Wh	ENDURA-50	48Wh
ENDURA-10S	93Wh	ENDURA-50	48Wh
ENDURA-HL9	88Wh	NP-L7	68Wh
ENDURA-HL9S	88Wh	NP-L7S	68Wh
ENDURA-10S HD	88Wh	NP-L50	50Wh
PowerCube	88Wh	NP-L50S	50Wh
ENDURA-80	82Wh	SSL-VBG50	37Wh
ENDURA-80S	82Wh	SL-VBD50	37Wh
ENDURA-7	68Wh		

*The ENDURA ELITE contains two removable PC-14 power cartridges at 68Wh. Simply remove one PC-14 cartridge from the battery casing prior to flight, pack correctly and re-install at your destination.

All Lithium Ion batteries manufactured after January 1st 2009 have the Wh rating marked on the outside of the battery casing. If for any reason you are unsure of a battery's Wh rating (from IDX or another manufacturer) and want to ensure compliance, you can make a simple calculation. Multiply the Voltage (V) by the Amp hour (Ah) rating and you have the Wh capacity of the battery. For example a 14.8V battery at 6.3Ah = 93Wh.

What rules apply to batteries shipped as air cargo?

From January 1st 2011, the 52nd edition of the IATA Dangerous Goods Regulations have also made changes to way Lithium Ion batteries can be air freighted. Any consignment containing Lithium Ion Batteries will need to be documented and packed in accordance with the regulations below:

Lithium Ion Batteries less than 100Wh

1) The maximum weight per package of Lithium Ion batteries is 10Kg.

There is no limit to the amount of packages you send in one shipment, provided the weight of each individual package is less than 10Kg. Please be aware that if, for example, one Lithium Ion battery (weight less than 1Kg) is placed directly in the same box as other equipment (chargers etc.) and the total weight of the package is over 10Kg, the package would have to be classified CLASS 9 - MISCELLANEOUS DANGEROUS GOODS. However, if the battery is packed with the equipment it

powers, they can be transported as long as they meet the requirements set out in Packing Instruction 966. Similarly, if Li-ion batteries less than 100Wh are attached to the equipment it powers, then the requirements of Packing Instruction 967 should be met.

2) Each package must be labelled with a lithium battery handling label.

Each individual package must have a Lithium Ion battery handling label attached to at least 1 side of the package, taking care not to overlap on two joint surfaces.

The Lithium Ion battery handling label design with all the required information is provided by IATA (see example). The minimum size for this label is 120mm x 110mm. IDX will ensure that any air freight shipment leaving our premises will do so with the approved labelling.



3) Each package should be accompanied by documentation with an indication that:

- the package contains Lithium Ion batteries. They should be classified as **“Lithium-ion battery, not restricted as per PI 965 Part 1”**
- the package must be handled with care and flammability hazard exists if the package is damaged
- the package should not be damaged or mishandled.
- Provide a telephone number for additional information in an emergency case.

IDX will ensure that any air freight shipment leaving our premises will have documentation that clearly displays the information required. This example on the right shows the information IDX will provide.

***** IMPORTANT INFORMATION FOR FREIGHT *****
 Lithium Ion battery, NOT RESTRICTED as per PI 965 Part 1. The package must be handled with care and flammability hazard exists, if the package is damaged. Do not damage or mishandle this package. If package is damaged, batteries must be protected so as to prevent short circuit. For more information, please call +44 - 1753 - 547692

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4) All packages have to be capable of withstanding a 1.2m drop test in a UN approved drop tested box.

Each package of Lithium Ion batteries should be shipped in a box that has been drop test approved. You have to be able to produce certification that the box containing the batteries has been subject to UN testing and these documents have to be supplied immediately when required, although it is not compulsory to send these with the shipment. All Lithium Ion battery consignments leaving IDX premises will be packed in UN approved drop tested boxes, and the supporting certification is available from us immediately upon request.

It is possible to place the drop-tested box containing Lithium Ion batteries inside a standard outer packing carton. In this case, you should make sure that your freight forwarder is aware of this and knows the batteries packed inside are in the approved boxes. The Lithium Ion battery handling label should also be repeated on the outer packing carton.

5) The Wh rating should be marked on the outside of the battery case.

From the 1st January 2009, all IDX Lithium Ion batteries will have the Wh rating on the outside of the battery case. Batteries manufactured before 1st January 2009 may still be transported without marking until December 31st 2010.

What if my battery is over 100Wh and shipped as air freight?

Any Lithium Ion battery over 100Wh is classified as CLASS 9 - MISCELLANEOUS DANGEROUS GOODS. To ship goods in this category means the shipper has to follow certain procedures that are not only time consuming but also incur extra cost to the shipper, and in most cases the end user. To air freight Lithium Ion batteries as CLASS 9 - MISCELLANEOUS DANGEROUS GOODS the shipper would have to consider the following actions;

- If any company handles and packs dangerous goods at their own premises, a trained "Dangerous Goods Advisor" is required onsite to oversee that the goods are packed in the correct materials and to declare the goods safe to travel.
- If this is not done on the shippers site, then in most cases a specialist company would need to be hired to pack the goods and also fill out a 'Dangerous Goods Note'. It is compulsory for Dangerous Goods shipments to be accompanied by this document.
- It is most likely that the freight forwarder will add a 'check-fee surcharge' to the shipping cost to cover the handling cost of Dangerous Goods.

Are Lithium Ion batteries shipped as road freight affected in the same way?

The regulations regarding the road freight of Lithium Ion batteries is very similar. The same Wh ruling, documentation and labelling requirements that applies to air freight also applies to goods transported via road freight. For batteries less than 100Wh, the one major difference is the maximum package weight. The maximum weight per package of Lithium Ion batteries travelling by road freight is 30Kg.

Batteries over 100Wh transported by road freight will be classified as CLASS 9 - MISCELLANEOUS DANGEROUS GOODS. In this instance, the same packing and shipping procedure that apply to air freight also applies to road freight.

Depending upon quantity of batteries and the destination of the package, road freight companies may also have to be in possession of a tremcard (transport emergency card). Transport emergency cards must be carried in the cab of any vehicle carrying dangerous goods in quantities exceeding the exempt quantities. The purpose is to instruct the driver in the event of an incident. They may also assist emergency response workers, as they carry information which is specific to the particular goods being carried.

If I am returning goods back to IDX for servicing do the IATA regulations still apply?

All the regulations surrounding the packaging, weight, labelling and supporting documentation apply anytime Lithium Ion batteries under 100Wh are shipped back to IDX for servicing and diagnostics. You should take care when returning ENDURA ELITE batteries that one PC-14 cartridge is removed from the battery casing prior to shipping and packed correctly. IDX will return the ELITE to you in the same manner.

It is important to note that any Lithium Ion batteries, identified by our customers or IDX as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit **are forbidden for transport**.

What can IDX do to help?

The IATA Dangerous Goods Regulations exist for the safety of all passengers and crew on-board civil aircraft. IDX take the regulations very seriously and take pride in manufacturing Lithium Ion batteries that are safe to carry on-board in quantity and transport by air. IDX will carry out every condition set out by IATA to the best of our ability. We strongly encourage our customers to follow the IATA regulations as the potential penalties for failing to comply could mean a substantial fine, while your batteries could be seized at the airport meaning you travel without crucial means to power equipment.

If you need further clarification on any subject regarding the IATA regulations or IDX batteries please do not hesitate to contact us.



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