

How do you correctly document lithium battery transports?

The transport of lithium batteries is a strictly regulated activity due to the potential safety risks. Correct documentation is essential to comply with all legal requirements and avoid fines. Whether you are shipping lithium-ion or lithium metal batteries, the proper paperwork ensures that your shipment arrives safely and without delays at its destination. In this guide, we answer the most frequently asked questions about documenting lithium battery transports.

What are the legal requirements for lithium battery documentation?

Strict international and European regulations apply to the transport of lithium batteries. The main regulations you should know are:

- **ADR** (European Agreement concerning the International Carriage of Dangerous Goods by Road) – for road transport within Europe
- **IATA DGR** (International Air Transport Association Dangerous Goods Regulations) – for air transport worldwide
- **IMDG Code** (International Maritime Dangerous Goods Code) – for sea transport

Lithium batteries are classified as dangerous goods (class 9) and are assigned specific UN numbers based on their type:

- UN3480 – Lithium-ion batteries (shipped separately)
- UN3481 – Lithium-ion batteries packed with equipment or installed in equipment
- UN3090 – Lithium metal batteries (shipped separately)
- UN3091 – Lithium metal batteries packed with equipment or installed in equipment

For each transport, you must prepare the following documentation:

1. A dangerous goods declaration (also known as Dangerous Goods Declaration or DGD)
2. Packaging certificate (if required)
3. Test certificates according to UN 38.3 for the batteries
4. Safety Data Sheet (SDS)
5. Transport documents with emergency information

It is important to know that requirements may vary depending on the transport method, battery type, and quantity. Exceptions may apply for some small lithium batteries, but even then there are specific documentation requirements.

How do you correctly complete a dangerous goods declaration?

A correct dangerous goods declaration (DGD) is crucial for the transport of lithium batteries. Here is a step-by-step approach:

1. **Shipper and consignee information** – Include full name, address, and contact details of both shipper and consignee.
2. **Transport information** – Specify the transport method (air, road, sea) and document numbers such as air waybills.

3. **Proper shipping name** – Use the exact official name according to regulations, for example “UN3480, LITHIUM ION BATTERIES”.
4. **Hazard class** – For lithium batteries, this is always class 9 (miscellaneous dangerous goods).
5. **UN number** – Include the correct UN number (UN3480, UN3481, UN3090, or UN3091).
6. **Packing group** – For lithium batteries, no packing group is required, so enter “N/A” or “-” here.
7. **Number and type of packages** – State the number of boxes, crates, or pallets and the type of packaging.
8. **Net quantity** – Indicate the net mass of the batteries in kilograms.
9. **Packing instruction** – Include the relevant packing instruction (e.g., P903 for ADR, PI965 for IATA).
10. **Additional information** – Add any additional statements required for the specific battery type and transport method.
11. **Emergency contact details** – Include a 24/7 accessible telephone number for emergencies.
12. **Declaration and signature** – Sign the declaration that the shipment is correctly classified, packed, marked, and in good condition for transport.

For air transport, the requirements are extra strict. For example, you must explicitly state whether they are lithium-ion or lithium metal batteries, the watt-hour rating (for lithium-ion) or lithium content (for lithium metal), and whether the batteries comply with section II, IA, IB, or section I of the relevant packing instruction.

A common mistake is not mentioning the required additional statements, such as “Dangerous goods as per attached DGD” or “Lithium ion batteries in compliance with Section II of PI966”.

Which packaging markings are mandatory for lithium battery transport?

In addition to the correct documentation, lithium battery packages must have specific markings and labels:

- **Class 9 hazard label** – The standard hazard label for dangerous goods class 9, mandatory for all lithium battery shipments not covered by exceptions.
- **Lithium battery handling mark** – A specific label indicating that the package contains lithium batteries. This label also shows the UN number and a telephone number for additional information.
- **Orientation arrows** – For packages with liquids that may affect the batteries.
- **UN specification markings** – For approved packages, indicating that the packaging complies with specific test standards.
- **Shipping name and UN number** – Clearly stated on the outer packaging.
- **Shipper and consignee details** – Complete contact information on the package.

For lithium-ion batteries shipped as UN3480 under IATA PI965 and lithium metal batteries shipped as UN3090 under PI968, there is an additional requirement: the “Cargo Aircraft Only” (CAO) label, as these batteries are prohibited on passenger flights.

It is important to know that labeling requirements may vary depending on whether you are shipping batteries under full regulation or under simplified conditions (for example, Section II of the IATA packing instructions).

The markings must be durable, visible, and legible. They must be weather-resistant without significant reduction in effectiveness. For small packages, customized label formats may sometimes be used, but the content and symbols must always comply with regulations.

What are the differences in documentation for different transport methods?

The documentation requirements for lithium batteries differ significantly between the various transport methods:

Road transport (ADR)

- Requires a transport document with UN number, proper shipping name, hazard class, packing group, and quantity
- Written instructions for emergencies
- For certain quantities, the “Limited Quantity” or “Excepted Quantity” exception may apply
- ADR certification for the driver is required when exceeding exemption limits

Air transport (IATA)

- Strictest regulations of all transport methods
- Requires a fully completed Shipper’s Declaration for Dangerous Goods
- State of Charge (SOC) restriction: lithium-ion batteries may be charged to a maximum of 30% for transport as cargo
- Specific declarations regarding compliance with test standards are required
- Detailed information on watt-hour rating or lithium content must be included
- Packing instructions PI965-970 must be strictly followed

Sea transport (IMDG)

- Requires a Dangerous Goods Declaration
- Container/vehicle packing list with information about the cargo
- Less strict restrictions for State of Charge than for air transport
- Specific stowage requirements depending on the vessel and position on board
- EmS numbers (Emergency Schedules) must be included

An important difference between the transport methods is the degree of exception that can be applied:

- For road transport, certain lithium batteries can be transported under special conditions with simplified documentation
- For air transport, exceptions are very limited, especially since the tightening of rules in 2016
- For sea transport, there are special provisions for certain types of lithium batteries, but full documentation usually remains necessary

For international shipments, you must always consider the regulations in all countries through which the shipment passes. Some countries have additional national requirements on top of international standards.

It is important to know that the regulations are regularly updated. For example, the IATA Dangerous Goods Regulations are revised annually, and the ADR regulations are renewed every two years. It is therefore essential to always consult the most recent version of the regulations.

Conclusion

Correctly documenting lithium battery transports is not a simple task, but it is essential for safe transport and regulatory compliance. The key to success lies in understanding the specific requirements for your type of batteries and transport method, and carefully following all documentation and marking requirements.

By following the proper procedures, you not only ensure compliance with the law but also the safety of everyone involved in the transport. Remember that regulations change regularly, so stay informed about the latest developments.

At [Faes](#), we understand the complex challenges of transporting sensitive equipment for defense, including equipment with lithium batteries. We develop packaging solutions that not only meet all legal requirements but also provide optimal protection during transport and storage.

Frequently Asked Questions

What exceptions apply to small lithium batteries during transport?

Special provisions may apply to small lithium batteries such as 'Special Provision 188' for ADR road transport or 'Section II' of the IATA packing instructions for air transport. These exceptions reduce the documentation requirements, but still require correct marking, packaging according to regulations, and often a statement on the transport documents. The exact limits are 100Wh for lithium-ion cells, 2g lithium for lithium metal cells, and specific limits per package that must be strictly followed.

How do I handle damaged or defective lithium batteries that need to be transported?

Damaged or defective lithium batteries are subject to special regulations (Special Provision 376) and may only be transported with special approval and under strict conditions. They must be packaged according to packing instruction P908 or LP904 of ADR/IMDG, in sturdy, leak-proof packaging that prevents short circuits. For air transport, there is a complete ban. Documentation must explicitly state that these are damaged/defective batteries and include specific safety measures. Always consult a dangerous goods expert before shipping these batteries.

What are the most common mistakes in lithium battery documentation and how can I prevent them?

Common mistakes include: using incorrect UN numbers, forgetting required additional statements, not mentioning watt-hour rating or lithium content, and providing incomplete emergency contact information. Prevent these by using standardized templates, implementing a double-check system, regularly attending training on the latest regulations, and consulting a specialist when in doubt. Also maintain a library of correct documentation for commonly used batteries in your organization as a reference.