

Technical Notice

Transport Regulations for Lithium Ion Batteries

1. Exemptions

Lithium ion batteries are dangerous goods, UN No. 3480. Therefore they are generally subject to transport regulations, depending on the transport mode. However, most Tadiran Lithium Ion Batteries listed in the product data catalogue are exempted from the regulations if the following conditions are given:

- The batteries have not more than 100 Wh nominal energy, each cell not more than 20 Wh nominal energy (Table 1).
- The batteries have passed the UN tests (Table 1).
- The batteries shall be packed in inner packagings that completely enclose them. They shall be protected so as to prevent short circuits.
- The package and the shipping documents are marked with a notice indicating that it contains lithium batteries and shall – if damaged – be quarantined, inspected and repacked (Example see Appendix B, last page).
- ADR/RID/IMDG-Code: The gross mass does not exceed 30 kg per package.
- IATA DGR: The net mass does not exceed 2.5 kg per package.
- The packaging shall be strong and capable of withstanding a 1.2 m drop test.
- For more conditions see special provision 188 (ADR/RID/IMDG-Code) and section II of Packing Instructions 965-967 (IATA DGR).
- **Air transport (IATA DGR): Lithium ion cells and batteries must be offered for transport at a state of charge (SoC) not exceeding 30 % of their rated design capacity. (effective 01.04.2016)**
- Special conditions apply to air transport of lithium cells batteries with more than 2.7 Wh but less than 20 Wh / 100 Wh lithium content (see PI 965, section IB)

2. Classification of lithium ion batteries

Table 1 shows Tadiran's Lithium Ion Batteries and which of them are exempted from the dangerous goods regulations and which are not.

Model	Exempted	Nominal energy Wh	UN Tests passed
TLI-1020	Yes ¹⁾	<0.3	Yes
TLI-1520	Yes ¹⁾	<0.8	Yes
TLI-1530	Yes ¹⁾	<1.2	Yes
TLI-1550	Yes ¹⁾ ²⁾	<2.7	Yes
¹⁾ If conditions mentioned in the text are fulfilled			
²⁾ See also IATA DGR under UN 3480 / PI 965 / Table 965-II			

Table 1

Classification of Tadiran's Lithium Ion Batteries

3. UN tests

Table 1 also shows the status of UN-tests for Tadiran's Lithium Ion Batteries according to the UN Manual of Tests and Criteria, part III, sub-section 38.3. Regarding Tadiran Lithium Ion Batteries not listed in table 1, please apply to Tadiran Batteries for a confirmation.

It is necessary to refer to the listed regulations and instructions for detailed information. They are revised on a regular basis. The tables are based on the revisions effective in January 2014.

The applicable documents are:

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road,
 IATA DGR: International Air Transport Association, Dangerous Goods Regulations,
 ICAO: International Civil Aviation Organization, Technical Instructions for the Safe Transport of Dangerous Goods by Air,
 IMDG Code: International Maritime Dangerous Goods Code,
 RID: International Statutory Order on the Conveyance of Dangerous Goods by Rail,
 UN: United Nations Recommendations on the Transport of Dangerous Goods.