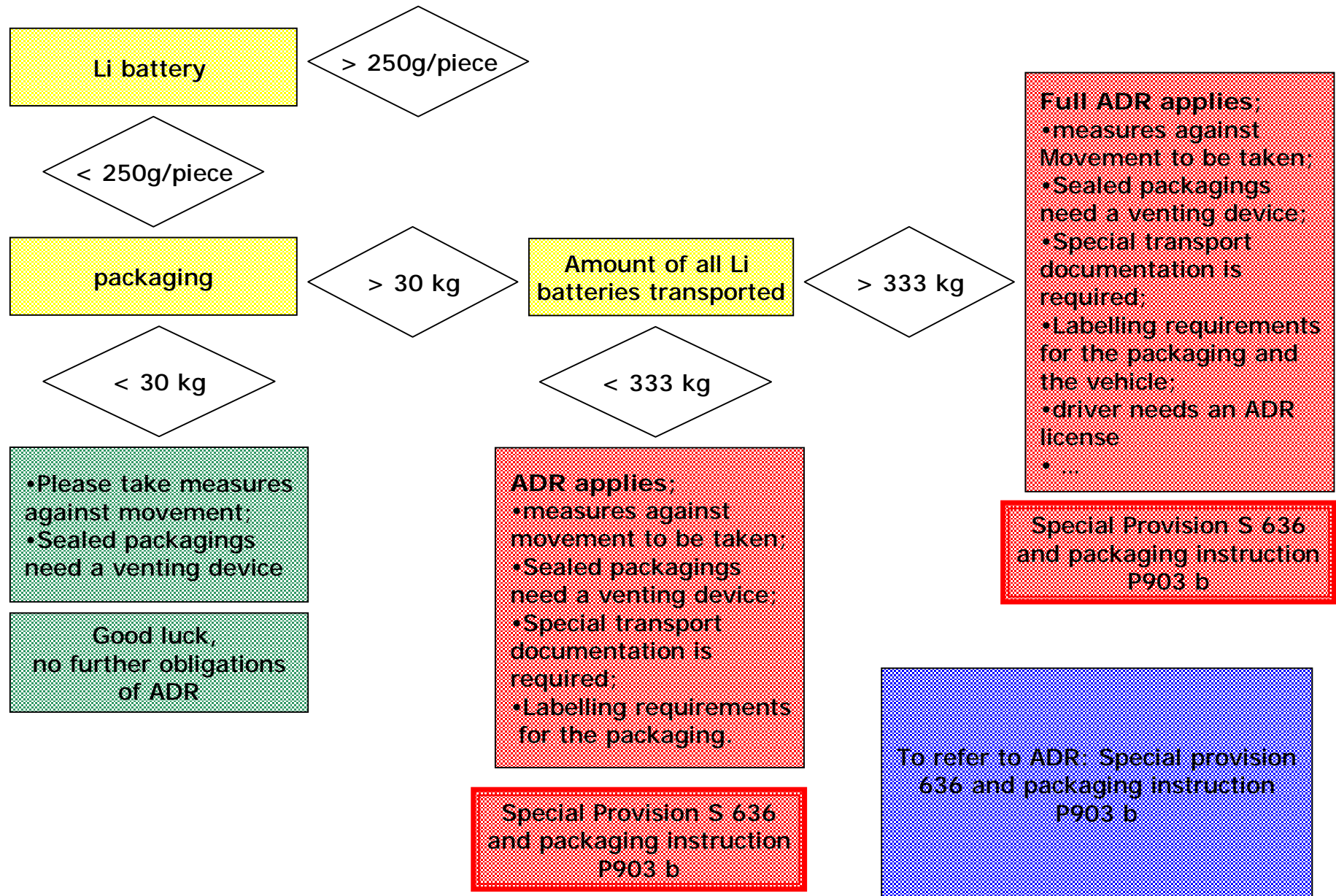
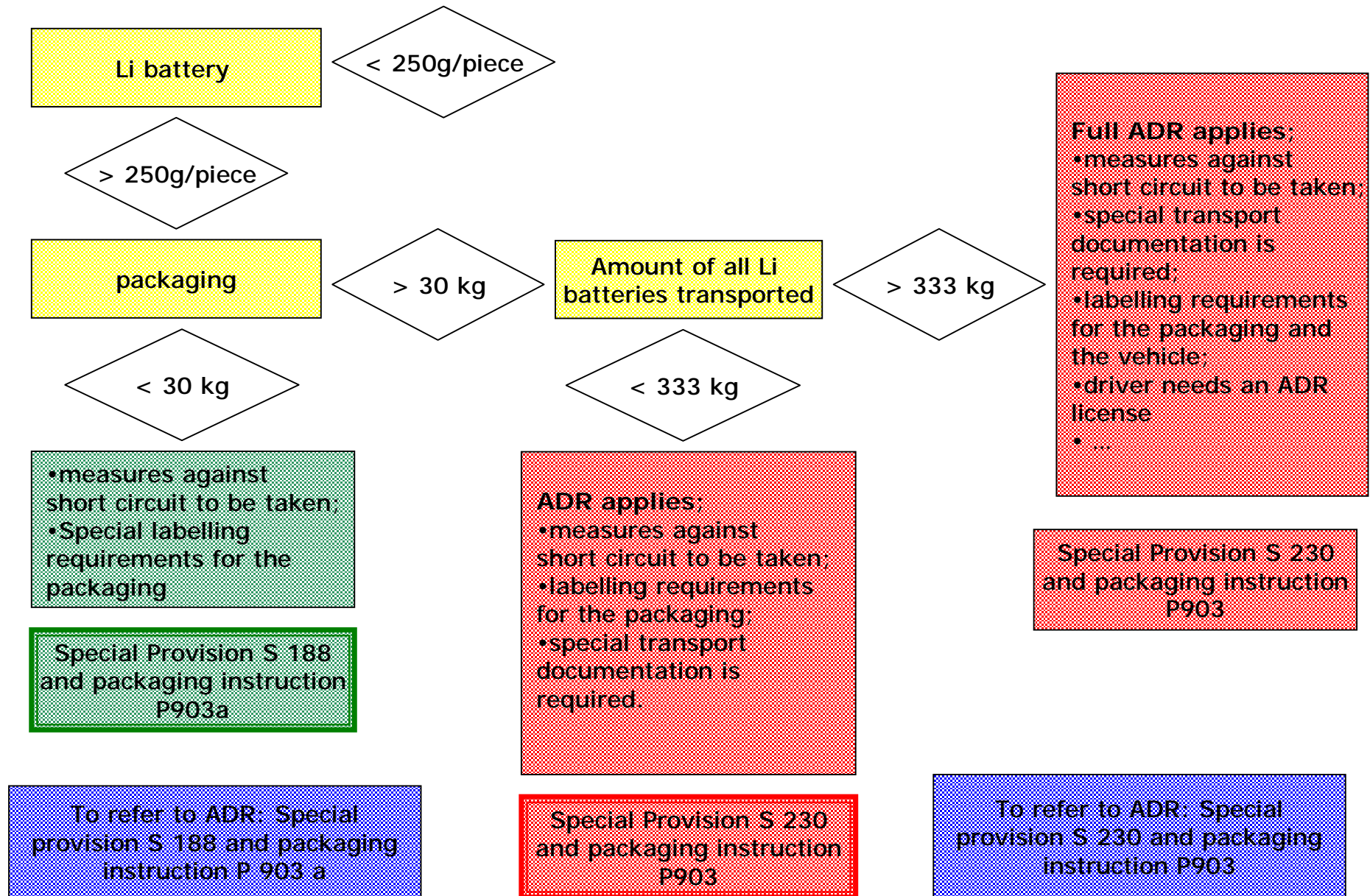


transport of spent lithium batteries ADR 2005/overview



transport of spent lithium batteries ADR 2005/ overview



transport of spent lithium batteries ADR 2005/ overview

Special Provision S 636 and packaging instruction P903 b

Special Provision S 636:

(a) Used lithium cells and batteries collected and presented for carriage for disposal between the consumer collecting point and the intermediate processing facility, together with other non-lithium cells or batteries or alone, are not subject to the other provisions of ADR if they meet the following conditions:

- (i) The gross mass of each lithium cell or battery does not exceed 250 g;
- (ii) The provisions of packing instruction P 903b) (2) are complied with.

(b) Cells contained in equipment shall not be capable of being discharged during carriage to the extent that the open circuit voltage falls below 2 volts or two third of the voltage of the undischarged cell, whichever is the lower;

(c) Packages containing used cells or batteries in unmarked packagings shall bear the inscription: "Used lithium cells".

Packing Instruction P903 b

This instruction applies to used cells and batteries of UN Nos. 3090 and 3091.

Used lithium cells and batteries, with a gross mass of not more than 250 g collected for disposal, together with other used non-lithium batteries or alone, may be carried, without being individually protected, under the following conditions:

- (1) In 1H2 drums or 4H2 boxes conforming to the packing group II performance level for solids;
- (2) In collecting trays with a gross mass of less than 30 kg made from non-conducting material meeting the general conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.8.

Additional requirements:

The empty space in the packaging shall be filled with appropriate cushioning material as to restrict the relative movements of the batteries during carriage. Hermetically sealed packagings shall be fitted with a venting device according to 4.1.1.8. The venting device shall be so designed that an overpressure caused by gases does not exceed 10 kPa.

Labelling according S 636:

Used lithium cells



UN 3090

back

transport of spent lithium batteries ADR 2005/ overview

Special Provision S 188 and packaging instruction P903a

Special Provision S 188:

Lithium cells and batteries offered for carriage are not subject to other provisions of ADR if they meet the following:

- (a) For a lithium metal or lithium alloy cell, the lithium content is not more than 1 g, and for a lithium-ion cell, the lithium-equivalent content is not more than 1.5 g;
- (b) For a lithium metal or lithium alloy battery the aggregate lithium content is not more than 2 g, and for a lithium-ion battery, the aggregate lithium-equivalent content is not more than 8 g;
- (c) Each cell or battery is of the type proved to meet the requirements of each test in the Manual of Tests and Criteria, Part III, sub-section 38.3;
- (d) Cells and batteries are separated so as to prevent short circuits and are packed in strong packagings, except when installed in equipment; and
- (e) Except when installed in equipment, each package containing more than 24 lithium cells or 12 lithium batteries shall in addition meet the following requirements:
 - (i) Each package shall be marked indicating that it contains lithium batteries and that special procedures should be followed in the event that the package is damaged;
 - (ii) Each shipment shall be accompanied with a document indicating that packages contain lithium batteries and that special procedures should be followed in the event a package is damaged;
 - (iii) Each package is capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents; and
 - (iv) Except in the case of lithium batteries packed with equipment, packages may not exceed 30 kg gross mass.

As used above and elsewhere in ADR, "lithium content" means the mass of lithium in the anode of a lithium metal or lithium alloy cell, except in the case of a lithium-ion cell the "lithium-equivalent content" in grams is calculated to be 0.3 times the rated capacity in ampere-hours.

Packing Instruction P903 a

This instruction applies to used cells and batteries of UN Nos. 3090 and 3091.

The following packagings are authorized, provided the general conditions of 4.1.1 and 4.1.3 are met: Packagings conforming to the packing group II performance level.

Non-approved packagings shall, however, be permitted provided that:

- They meet the general provisions of 4.1.1 and 4.1.3;
- The cells and batteries are packed and stowed so as to prevent any risk of short circuits;
- The package weigh not more than 30 kg.

Additional requirements:

Batteries shall be protected against short circuit.

Labelling according S 188:



CAUTION!

Lithium Batteries inside
Handle with care
Flammable if damaged
If the package is damaged,
it must be quarantined, inspected and
repacked.
Please contact then:

Company/ Telephone Number

back

transport of spent lithium batteries ADR 2005/ overview

Special Provision S 230 and packaging instruction P903

Special Provision S 230:

This entry applies to cells and batteries containing lithium in any form, including lithium polymer and lithium ion cells and batteries. Lithium cells and batteries may be carried under this entry if they meet the following provisions:

- (a) Each cell or battery is of the type proved to meet the requirements of each test of the Manual of Tests and Criteria, Part III, sub-section 38.3;
- (b) Each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under normal conditions of carriage;
- (c) Each cell and battery is equipped with an effective means of preventing external short circuits;
- (d) Each battery containing cells or series of cells connected in parallel is equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc.).

Packing Instruction P903

This instruction applies to used cells and batteries of UN Nos. 3090 and 3091.

The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met: Packagings conforming to the packing group II performance level. In addition, batteries with a strong, impact resistant outer casing of a gross mass of 12 kg or more, and assemblies of such batteries, may be packed in strong outer packagings, in protective enclosures (e.g., in fully enclosed or wooden slatted crates) unpackaged or on pallets. Batteries shall be secured to prevent inadvertent movement, and the terminals shall not support the weight of other superimposed elements.

When lithium cells and batteries are packed with equipment, they shall be packed in inner fibreboard packagings that meet the requirements for packing group II. When lithium cells and batteries included in Class 9 are contained in equipment, the equipment shall be packed in strong outer packagings in such a manner as to prevent accidental operation during carriage.

Additional requirements:

Batteries shall be protected against short circuit.

ADR Labelling:

