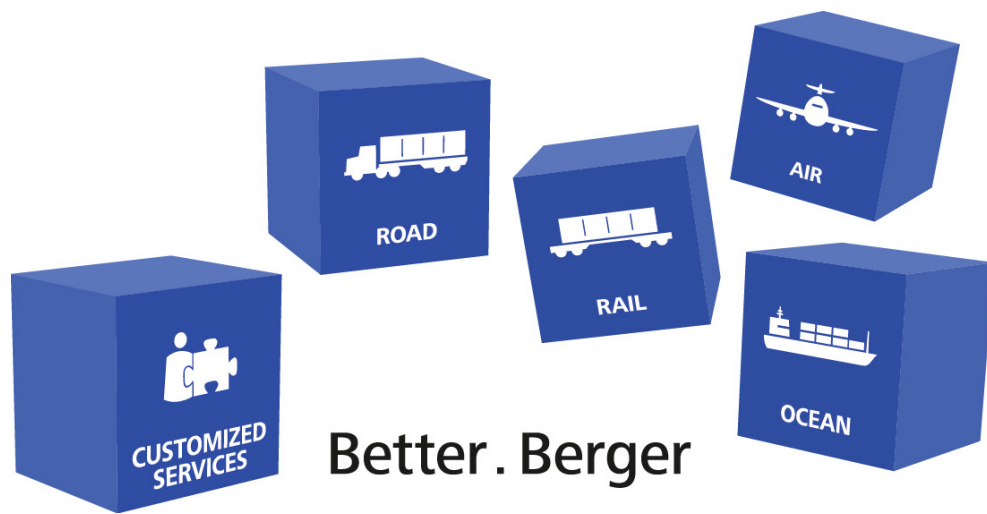
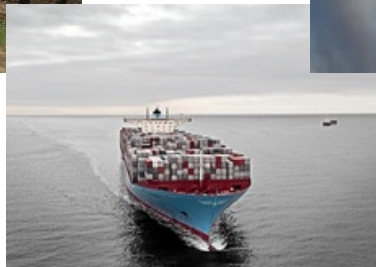


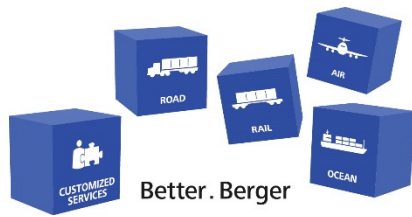


Berger Logistik GmbH



SES-Imagotag
Mr. Thaller, Eberl, Poljanec,
Egger-Cimenti
Mrs Langova, Grishakova
Lithium Metal Batteries

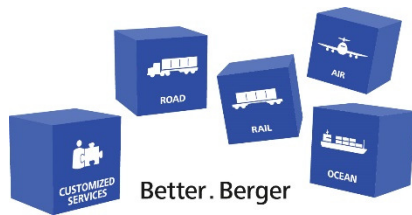




SES-Imagotag Product overview

Page 2

Standard Labels and Packing						Lithium Metal Cells and Batteries			
Label Type	Labels per package	Sub-packages per package	Labels per sub-package	Packages per pallet	Labels per pallet	Typ	Weight per cell in gram	Number of cells per label	Weight of lithium content in miligram per cell
G1 retail 1.6	100	n/a	n/a	72	7.200	CR2450	6,6	1	143
G1 retail 2.2	100	n/a	n/a	72	7.200	CR2450	6,6	2	143
G1 retail 2.6	80	n/a	n/a	72	5.760	CR2450	6,6	2	143
G1 retail 2.7	80	n/a	n/a	72	5.760	CR2450	6,6	2	143
G1 retail 4.2	60	6	10	40	2.400	CR2450	6,6	3	143
G1 retail 4.4. b/w		#DIV/0!			-	CR2450	6,6	2	143
G1 retail 4.4 red	60	6	10	40	2.400	CR2477	9,6	3	300
G1 retail 4.5	80	n/a	n/a	64	5.120	CR2450	6,6	3	143
G1 retail 6.0	40	4	10	18	720	CR2450	6,6	3	143
G1 retail 7.4	40	4	10	18	720	CR2477	9,6	3	300
S-tag 6 HF	100	n/a	n/a	160	16.000	CR2450	6,6	1	143



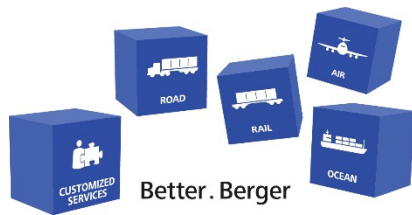
Definition of Lithium Metal Cells and Batteries

Lithium Battery – The term “lithium battery” refers to a family of batteries with different chemistries, comprising many types of cathodes and electrolytes. For the purposes of the DGR they are separated into:

Lithium metal batteries. Are generally primary (non-rechargeable) batteries that have lithium metal or lithium compounds as an anode. Also included within lithium metal are lithium alloy batteries. Lithium metal batteries are generally used to power devices such as watches, calculators, cameras, temperature data loggers, car key fobs and defibrillators.

Example of Lithium Metal Cells and Batteries



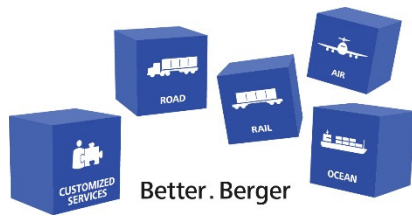


Definition of Lithium Metal Cells and Batteries

Battery means two or more cells which are electrically connected together and fitted with devices necessary for use, for example, case, terminals, marking and protective devices. Units which have two or more cells that are commonly referred to as "battery packs", "modules" or "battery assemblies" having the primary function of providing a source of power to another piece of equipment are for the purposes of the UN Model Regulations and this guidance document treated as batteries. See definitions for "cell" and "single cell battery". (See also "Power Banks")

Button cell or battery means a round small cell or battery when the overall height is less than the diameter.

Cell means a single encased electrochemical unit (one positive and one negative electrode) which exhibits a voltage differential across its two terminals. Under the UN Model Regulations, *UN Manual of Tests and Criteria* and this guidance, to the extent the encased electrochemical unit meets the definition of "cell" herein, it is a "cell", not a "battery", regardless of whether the unit is termed a "battery" or a "single cell battery" outside of the UN Model Regulations, the *UN Manual of Tests and Criteria* and this guidance.



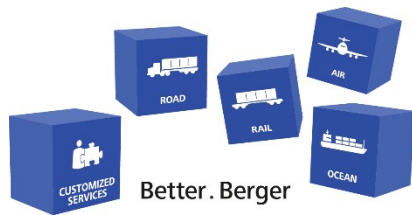
Definition of Lithium Metal Cells and Batteries

Net Quantity

Either:

- (a) the weight or volume of the dangerous goods contained in a package excluding the weight or volume of any packaging material; or
- (b) the weight of an unpackaged article of dangerous goods (e.g. UN 3166).

For the purposes of this definition “dangerous goods” means the substance or article as described by the proper shipping name shown in Table 4.2, e.g. for “Fire extinguishers”, the net quantity is the weight of the fire extinguisher. For articles packed with equipment or contained in equipment, the net quantity is the net weight of the article, e.g. for “Lithium ion batteries contained in equipment”, the net quantity is the net weight of the lithium ion batteries in the package.



Lithium Metal Cells and Batteries Mark

Former mark

Transition period till 31.12.2018



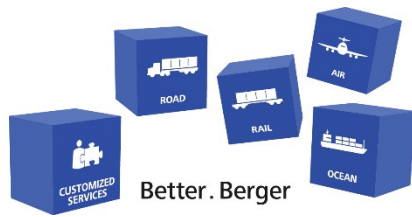
New mark

Since 01.01.2017



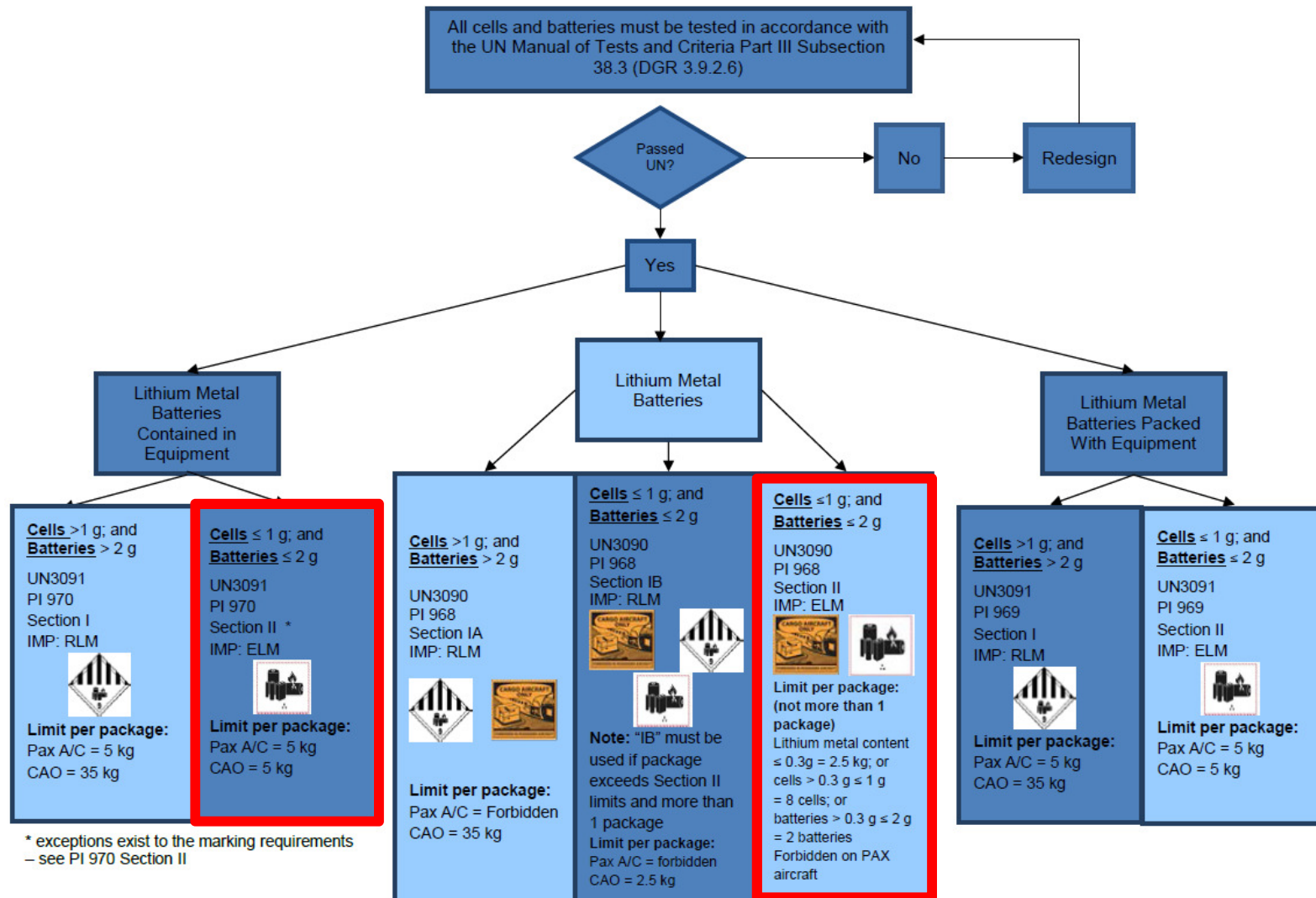
Minimum dimensions are 120mm wide x 110 mm high

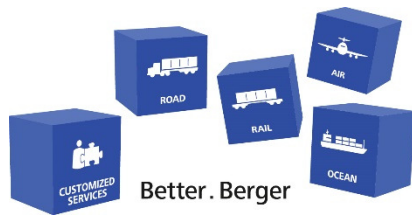
Where the packages are of dimensions such that they cannot bear the full size lithium battery mark, the mark dimensions may be reduced to 105 mm wide × 74 mm high. The design specifications remain otherwise the same.



Airfreight – Classification Flowchart for Lithium Metal Cells and Batteries

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Airfreight - Packing, Marks and Declaration for UN 3091

■ Lithium Metal Cell max. 1g (Lithium)

- PAX/CAO – max. 5kgs net quantity

■ Lithium Metal Batteries max. 2g

- PAX/CAO – max. 5kgs net quantity

■ UN3091 / PI970 / Section II

■ DGD not required

■ Each package must be declared

■ Airwaybill declaration

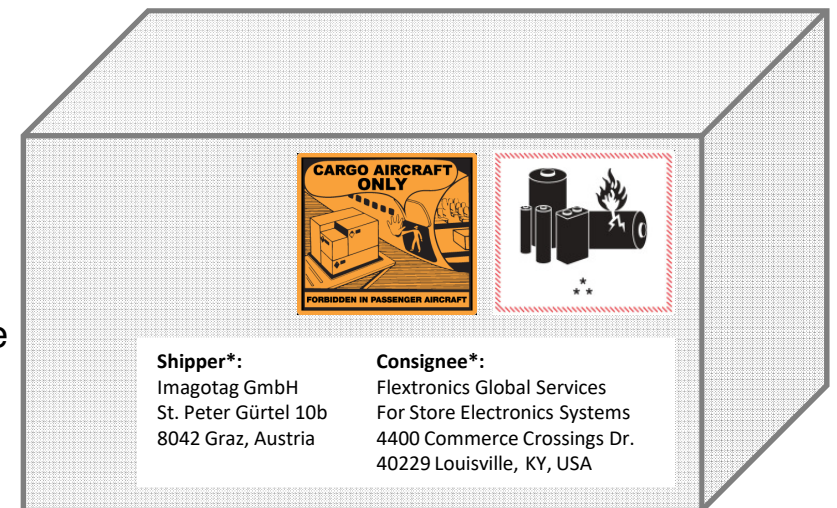
The wording “*Lithium metal batteries in compliance with Section II of PI 970*” must be declared on the AWB in field “*Nature and Quantity of Goods*”.

- * not mandatory



Airfreight - Packing, Marks and Declaration for UN 3090

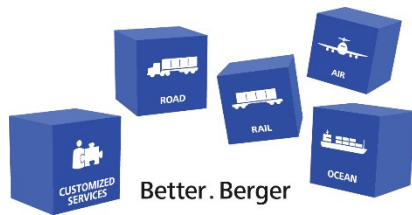
- **Lithium Metal Cell max. 0,3g (Lithium)**
 - CAO / 2,5kgs net quantity / per package
 - max. 1 package per shipment
- **Lithium Metal Cell over 0,3g max. 1g**
 - CAO / max. 8 cell / per package
 - max. 1 package per shipment
- **Lithium Metal Batteries max. 2g**
 - CAO / max. 2 batteries / per package
 - max. 1 package per shipment
- **UN 3090 / PI968 / Section II**
- **DGD not required.**



- **Airwaybill declaration**

The wording “*Lithium metal batteries in compliance with Section II of PI 968*” and “*Cargo Aircraft Only*” must be declared on the AWB in field “*Nature and Quantity of Goods*”.

- * not mandatory

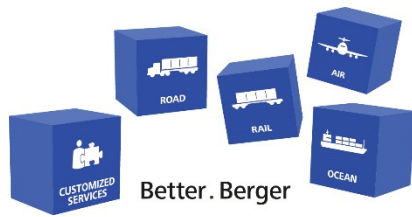


Airfreight - Restrictions by SES-Imagotag Labels

Page 10

AIR restriction UN 3091	
Label Type	Maximal labels per package allowed
	PAX
G1 retail 1.6	757
G1 retail 2.2	378
G1 retail 2.6	378
G1 retail 2.7	378
G1 retail 4.2	252
G1 retail 4.4. b/w	
G1 retail 4.4 red	173
G1 retail 4.5	252
G1 retail 6.0	252
G1 retail 7.4	173
S-tag 6 HF	757

AIR restriction UN 3090					
Battery Type	Cell or Battery	Numbers of cells	Cell or battery weight in gram	Max. cell or battery allowed	
CAO					
CV2450	Cell	1	6,6	378	cells
CV2450	Battery	2	13,2	2	batteries
CV2450	Battery	3	19,8	2	batteries
CV2450	Battery	4	26,4	2	batteries
CV2477	Cell	1	9,6	260	cells
CV2477	Battery	2	19,2	2	batteries
CV2477	Battery	3	28,8	2	batteries
CV2477	Battery	4	38,4	2	batteries



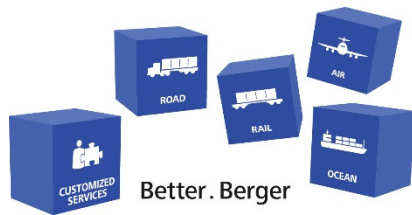
Road Transport - not subject to ADR provision due to

■ Special Provision 188

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

Page 11

- (a) For a lithium metal or lithium alloy cell, the lithium content is not more than 1 g.
- (b) For a lithium metal or lithium alloy battery the aggregate lithium content is not more than 2 g.
- (f) Except for packages containing button cell batteries installed in equipment (including circuit boards), or no more than four cells installed in equipment or no more than two batteries installed in equipment, each package shall be marked with the following:
 - (i) an indication that the package contains "lithium metal" or "lithium ion" cells or batteries, as appropriate;
 - (ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;
 - (iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and
 - (iv) a telephone number for additional information;
- (i) Except when batteries are installed in or packed with equipment, **packages shall not exceed 30 kg gross mass.**



Road Transport – Packing, Marks and Declaration for UN3091

■ CMR Document and Packing Declaration

UN 3091 – Lithium metal batteries contained in equipment

Transport acc. due to ADR 3.3.1. special provision 188. Do not load or transport package if damaged.

For more information, call Tel:

Damage may cause fire, if it's damaged, special packaging needed.

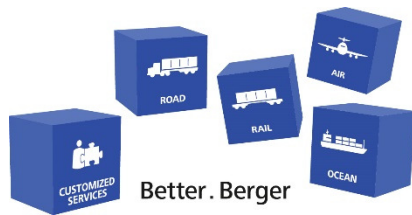
UN 3091 – Lithium akkumulátorokat tartalmazó eszközök.

Mentességgel szállítható az ADR 3.3.1 szerinti 188 számú különleges előírás szerint.

Tilos rakodni vagy szállítani, ha sérült az áru, további információért hívja:

Sérülése tűzveszélyt okozhat. Sérülése esetén különleges csomagolási eljárásra van szükség.

- A telephone number for additional information must be mentioned from a person that can provide detailed information about the content in case of damage.
- Overpack must also been marked with the CMR Document and Packing Declaration.
- If the text field on the CMR document is too limited, a supplementary sheet with the CMR Document and Packing Declaration must be attached to the CMR. Mark on CMR:
“See attached document with details about UN3091”.



Road Transport – Packing, Marks and Declaration for UN3090

■ CMR Document and Packing Declaration

UN 3090 – Lithium metal batteries

Transport acc. due to ADR 3.3.1. special provision 188. Do not load or transport package if damaged.

For more information, call Tel:

Damage may cause fire, if it's damaged, special packaging needed.

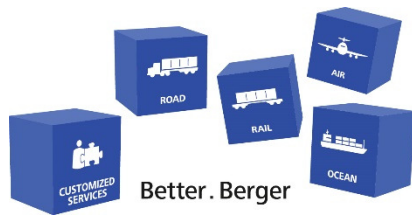
UN 3090 – Lithium akkumulátorok

Mentességgel szállítható az ADR 3.3.1 szerinti 188 számú különleges előírás szerint.

Tilos rakodni vagy szállítani, ha sérült az áru, további információért hívja:

Sérülése tűzveszélyt okozhat. Sérülése esetén különleges csomagolási eljárásra van szükség.

- A telephone number for additional information must be mentioned from a person that can provide detailed information about the content in case of damage.
- Overpack must also been marked with the CMR Document and Packing Declaration.
- If the text field on the CMR document is too limited, a supplementary sheet with the CMR Document and Packing Declaration must be attached to the CMR. Mark on CMR:
“See attached document with details about UN3090”.



Road Transport – Packing, Marks and Declaration UN3090 / UN3091

■ Lithium Metal Cell max. 1g (Lithium)

■ Lithium Metal Batteries max. 2g

■ Max weight per packages:

■ 30kgs gross mass

■ ADR carriage document not required

■ CMR declaration as per p.10/11 on overpack and on single package if not packed in an overpack

■ * not mandatory

