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EUROBAT

Association of European Storage Battery Manufacturers
Association des Fabricants Européens d'Accumulateurs
Vereinigung Europäischer Akkumulatoren-Hersteller

Explanatory Notes for the internal and cross-border transportation of new and used batteries and other battery-specific dangerous goods by road for the implementation of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) by the Committee for Environmental Matters of EUROBAT, the Association of European Storage Battery Manufacturers

ADR 2007

These Explanatory Notes, merely provide guidance for compliance with the provisions of the ADR 2007; they do not replace those provisions.

Updated version based on the 18th ADR amendments, applicable as from 01 July 2007

EUROBAT, the *Association of European Storage Battery Manufacturers*, has 36 regular and associate member companies and represents more than 85 % of the battery industry in Europe. It acts as a unified voice and reference source promoting the interests of the European starter and industrial battery industry to consumers, the EU institutions and national governments.

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I. Carriage of dangerous goods (summary)

	Class:	UN no.
1. Sulphuric acid	8	2796
2. Caustic potash solution	8	2797
3. Sodium hydroxide	8	1824
4. Potassium hydroxide	8	1813
5. Uncleaned empty containers (former filling material: sulphuric acid, caustic potash solution, lead sludge containing sulphuric acid with 3% or more free sulphuric acid or used lead storage batteries)	8	2796 or 2797 or 1794 or 2794
6. Uncleaned empty containers (former filling material: lead sweepings, red lead, lead dust, filter dust etc.)	6.1	3288 or 2291
7. Lead sludge containing sulphuric acid with more than 3% free acid	8	1794
8. Waste containing lead (Lead sweepings, red lead, lead dust, filter dust Plattenschrott, lead sludge with less than 3% free acids etc.)	6.1	3288 or 2291
9. Used lead storage batteries in battery cases or in bulk (filled with acid and partially drained storage batteries)	8	2794
10. Used lead storage batteries - open system fixed installations After stripping		
- Sulphuric acid	8	2796
- Lead plates	6.1	3288 or 2291
- Cell boxes	6.1	3288 or 2291
11. Used lead storage batteries - closed system with intact cases	Not subject to the ADR if Special Provision 598 b) is satisfied	
12. Used lead storage batteries - closed system with damaged cells	8	2794
13. Used storage batteries - starter batteries and Ni/Cd industrial storage batteries with intact cases	Not subject to the ADR if Special Provision 598 b) is satisfied	
14. New storage batteries Lead and Ni/Cd industrial storage batteries	Not subject to the ADR if Special Provision 598 a) is satisfied	
15. New lithium batteries	Not subject to the ADR if Special Provision 188 is satisfied	
16. New lithium batteries	9	3090 or 3091
17 a. Used lithium batteries with a gross mass not more than 250 g.	Not subject to ADR if Special Provisions 636 is satisfied	
17 b. Used lithium batteries with a gross mass of more than 250 g.	Not subject to ADR if Special Provisions 188 is satisfied	
18. New and used portable batteries	In general not subject to the ADR (see also Special Provision 304)	

19	Lead oxide in Containers <and> 1 m ³	6.1	2291
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II. General regulations for the carriage of dangerous goods

Carriage of dangerous goods by private persons

§ The provisions laid down in ADR do not apply to the carriage of dangerous goods by private individuals where the goods in question are packaged for retail sale and are intended for their personal or domestic use or for their leisure or sporting activities provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage. (1.1.3.1.a).

Transport document (Paragraph 5.4.1)

§ The transport document (delivery note) is required for every consignment of dangerous goods unless such consignment is effected in limited quantities in accordance with Chapter 3.4 (Paragraph 5.4.0).

§ Each crew member of a vessel carrying dangerous goods shall carry with them means of identification (UN number, description, which includes their photograph, during carriage. (paragraph 1.10.1.4)

Instructions in writing (accident sheet) (Paragraph 5.4.3), (Subparagraph 1.1.3.6)

§ Due to their characteristics, battery components are in transport category 2, so in principle, every consignment of dangerous goods of a gross weight of 333 kg* or more must be covered by an accident sheet or by a grouped accident sheet.

§ One accident sheet must be kept in the driver's cabin for each delivery.

§ It is no longer required to incorporate accident sheets in the warning plates.

§ In case of cross-border carriage of dangerous goods the accident sheets must be written up in the languages of the countries of transit and the country of destination and in the language of the driver of the vehicle.

§ The accident sheets must be handed over to the carrier directly upon communication of the transport assignment. The driver must receive the accident sheets together with the transport document (delivery note).

§ In the event of carriage of waste material, the description of the goods in the accident sheet must state "Waste, UN ..." (in accordance with 5.4.1.1.3).

Orange warning plates (Paragraph 5.3.2)

§ Vehicles carrying loads of a gross weight of 333 kg* or more must have orange-coloured warning plates on the front and rear of the vehicle. These plates must be covered over if the load does not include dangerous goods. This likewise applies for the unloading of dangerous goods at the clients' premises and the return journey without dangerous goods (Paragraph 5.3.2, Subparagraph 1.1.3.6).

Support, protective equipment (Paragraph 8.1.5)

Every transport unit carrying dangerous goods (gross weight of 333 kg* or more) shall be equipped with the following general purpose safety equipment:

§ For each vehicle, at least one chock of a size suited to the weight of the vehicle and to the diameter of the wheels;

§ Two self-standing warning signs (e.g. reflective cones or triangles or flashing amber lights which are independent from the electrical equipment of the vehicle);

§ A suitable warning vest or warning clothing (e.g. as described in European Standard EN 471) for each member of the vehicle crew;

§ A pocket lamp (see also 8.3.4) for each member of the vehicle crew;

In addition the transport unit shall be equipped with the personal protection and the equipment necessary to take the additional and/or special actions referred to in the instructions in writing set out in 5.4.3.

*) In the event of carriage of lead storage batteries and Ni/Cd industrial storage batteries, used, in accordance with P 801 a) or Paragraph 7.3.3. - VV 14 – only required from 1,000 kg. For lithium batteries required from 333 kg.

In the event of carriage of substances falling under class 6.1, PG III and class 8, PG II: required from 333 l or kg.

Unlimited total quantity for the carriage of uncleaned empty containers (1.1.3.6).

II. General regulations for the carriage of dangerous goods

Fire extinguishers (Paragraph 8.1.4 and 1.6.5.6)

§ Applicable until 31.12.2007: all vehicles carrying dangerous goods > 333 kg must be equipped with 2 fire extinguishers (6 kg and 2 kg).

§ As of 01.01.2008:

All vehicles carrying dangerous goods > 333 kg must be equipped with 1 or 2 fire extinguishers depending on the maximum permissible mass of the transport units

- Transport units > 7,5 to 12 kg, i.e. 6 + 6 kg
- transport units > 3,5 bus 7,5 to 8 kg, i.e. 6 + 2 kg
- transport units < 3,5 to 4 kg, i.e. 2 + 2 kg

§ All vehicles carrying loads of a gross weight of less than 333 kg* must be equipped with one portable fire extinguisher (2 kg) (in accordance with 1.1.3.6.2).

Dangerous goods driver's licence (Paragraph 8.2.1)

§ Vehicles must be driven by specially trained drivers only. (8.2.1.1)

Passenger transport (Paragraph 8.3.1)

§ Passengers are not allowed.

Safety rules (Chapter 8.3)

§ Smoking not allowed (naked flame) during loading operations (8.3.5)

§ Class 6.1 dangerous goods must be kept well away from foodstuffs during loading, unloading and additional loading operations (7.5.4).

§ Consignor / loader must notify carrier / driver of the dangerous load and its designation, etc. (1.4.1 + 1.4.2).

*) In the event of carriage of lead storage batteries and Ni/Cd industrial storage batteries, used, in accordance with P 801 a) or Paragraph 7.3.3. - VV 14 – only required from 1,000 kg. For lithium batteries required from 333 kg.
In the event of carriage of substances falling under class 6.1, PG III and class 8, PG II: required from 333 l or kg.
Unlimited total quantity for the carriage of uncleaned empty containers (1.1.3.6).

II. General regulations for the carriage of dangerous goods

Vehicles and trailers

§ Private motor vehicles

Carriage of filled batteries allowed in accordance with Special Provision 598 a) and b).
Carriage in the luggage space when possible, secured on non-slip mats in order to prevent sliding.
Filled batteries must be secured in the luggage space so as to prevent them from sliding and tipping over (e.g. retainer belt/rings possibly on back wall or non-slip mats).

§ Trailers

Loads must be correctly distributed and secured with tailboard rings. Carriage of small parts: securing with non-slip mats or belts.

§ Trucks

load securing – same precautions as for trailers,
possibly additional chocking separators,
load securing belts must also be tightened during partial unloading operations,
load securing (in own vehicles) also possible with a type of "luggage spider" system.

Intermediate reloading regulation (securing of loads)

- § Separate articles may not change position relative to each other or on the load floor. Articles must be secured both on the pallets and on the vehicle load floor (7.5.7.1).
- § Mixed load prohibitions (7.5.2). Dangerous goods of Classes 6.1 and 8 may not be carried in the same load as Class 1 dangerous goods (7.5.2.1).

Training of persons involved in the carriage of dangerous goods

- Persons whose duties concern the carriage of dangerous goods by road shall have received training in the requirements governing the carriage of such goods appropriate to their responsibilities and duties.
- This requirement shall apply to individuals such as personnel who are employed by the road vehicle operator or the consignor, personnel who load or unload dangerous goods, personnel in freight forwarding or shipping agencies and drivers of vehicles other than drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road. (1.3.1 and 8.2.3)

III. Regulations for the carriage of specific dangerous goods

1. Sulphuric acid (battery fluid, acid) (incl. used) to 51% = density up to 1.4 g/cm³

Classification (Chapter 3.2, Columns 1 - 4)

UN Number	2796
Name and description	battery fluid, acid
Class	8
Packing group	II
Transport category	2
Tunnel restriction code	E

Limited quantities under LQ22 (Chapter 3.2, Column 7, in accordance with 3.4.6)

non-dangerous goods transport, if	combination packaging	trays
in interior packaging	1 litre	0.5 litre
per transported item	30 kg	20 kg

Type-approved packaging (Chapter 3.2, Column 8, in accordance with 4.1.4)

Combination packaging (e.g. plastic bottle in carton)

P001 = e.g. plastic canister* up to 60 litres (6.1.4.8.9) use max. 5 years (4.1.1.15)

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 8 (1 on canister, for IBC, on 2 opposite sides)



UN 2796

Also required for carriage under LQ22
Chapter 3.2 Column 7 (3.4.5c)

Transport document (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

UN 2796 Battery fluid, acid, 8, II


No indication on the transport document is required for consignments of limited quantities under LQ22 (5.4.1.1.4).

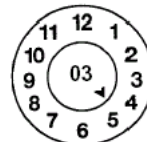
Recommendation: "Packaging of battery fluid, acid, must be executed in accordance with LQ22; the provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Note in the event of application of Subparagraph 1.1.3.6:
"Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6" and indication of the value of the quantity to be transported (5.4.1.1.10.1 + 5.4.1.1.1 Note)
Recommendation: Reference on -transport category 2, tunnel restriction code E-

*) Can be recognised by:

1. the symbol 
2. the year of production
3. the following exemplary stamp



III. Regulations for the carriage of specific dangerous goods

2. Caustic potash solution (battery fluid, alkaline)

Classification (Chapter 3.2, Columns 1 – 4 + 15)

UN Number	2797
Name and description	battery fluid, alkaline
Class	8
Packing group	II
Transport category	2
Tunnel restriction code	E

Limited quantities under LQ22 (Chapter 3.2, Column 7, in accordance with Table 3.4.6)

non-dangerous goods transport, if	combination packaging	trays
in interior packaging	1 litre	0.5 litre
per transported item	30 kg	20 kg

Type-approved packaging (Chapter 3.2, Column 8, in accordance with 4.1.4)

Combination packaging (e.g. plastic bottle in carton)

P001 = e.g. plastic canister* up to 60 litres (6.1.4.8.9) use max. 5 years (4.1.1.15)

IBC 02 = e.g. plastic container in IBC* 1000 litres (6.5.5.3.1)

Update of the inspection report after 2.5 year (6.5.4.4.2 +6.5.4.4.3) use max 5 years

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 8 (1 on canister, for IBC, on 2 opposite sides)



UN 2797

Also required for carriage under LQ22

Chapter 3.2 Column 7 (3.4.5c)

Incl. Orientation arrow

Labels shall be displayed on a background of contrasting color, or shall have either a dotted or solid outer boundary line. (5.2.2.2.1.1)

The marking of the word "OVERPACK" (5.1.2.1 a+b) shall be in an official language of the country of origin and also, if that language is not English, French or German, in English, French or German. Orientation arrow (5.2.1.9.1) shall be displayed on 2 opposite sides

Transport document (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

UN 2797 battery fluid, alkaline, 8, II

No indication in the transport document is required for consignments of limited quantities under LQ22 (5.4.1.1.4).

Recommendation: "Packaging of battery fluid, alkaline, must be executed in accordance with LQ22; the provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

It must further state:


- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Note in the event of application of Subparagraph 1.1.3.6:
"Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6" and indication of the value of the quantity to be transported (5.4.1.1.10.1 + 5.4.1.1.1 Note)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

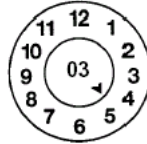
Handling and Stowage

Packages shall not be stacked unless designed for that purpose. (7.5.7.2)

Restraints shall not be over-tightened to cause deformation of the package. (7.5.7.1)

*) Can be recognised by:

1. The symbol 
2. The year of production
3. The following exemplary stamp



III. Regulations for the carriage of specific dangerous goods

3. Caustic soda (sodium hydroxyde solution)

Classification (Chapter 3.2, Columns 1 – 4 +15)

UN number	1824
Name and description	sodium hydroxide solution (caustic soda)
Class	8
Packing group	II
Transport category	2
Tunnel restriction code	E

Limited quantities under LQ22 (Chapter 3.2, Column 7, in accordance with 3.4.6)

non-dangerous goods transport, if	combination packaging	trays
In interior packaging	1 litre	0.5 litre
Per transported item	30 kg	20 kg

Type-approved packaging (Chapter 3.2, Column 8, in accordance with 4.1.4)

Combination packaging (e.g. plastic bottle in carton)

P001 = e.g. plastic canister* up to 60 litres (6.1.4.8.9) use max. 5 years (4.1.1.15)

IBC 02 = e.g. plastic container in IBC* 1000 litres (6.5.5.3.1)

Update of the inspection report after 2.5 year (6.5.4.4.2 +6.5.4.4.3) use max 5 years

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 8 (1 on canister, for IBC, on 2 opposite sides)



UN 1824

Also required for carriage under LQ22
Chapter 3.2 Column 7 (3.4.5c)
Incl. Orientation arrow

Labels shall be displayed on a background of contrasting color, or shall have either a dotted or solid outer boundary line. (5.2.2.2.1.1)

The marking of the word "OVERPACK" (5.1.2.1 a+b) shall be in an official language of the country of origin and also, if that language is not English, French or German, in English, French or German. Orientation arrow (5.2.1.9.1) shall be displayed on 2 opposite sides

Transport document (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

UN 1824, sodium hydroxide solution, 8, II

No indication in the transport document is required for consignments of limited quantities under LQ22 (5.4.1.1.4).

Recommendation: "Packaging of the sodium hydroxide must be executed in accordance with LQ22; the provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Note in the event of application of Subparagraph 1.1.3.6:
"Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6" and indication of the value of the quantity to be transported (5.4.1.1.10.1 + 5.4.1.1.1 Note)

- Recommendation: Reference on -transport category 2, tunnel restriction code E-

Handling and Stowage

Packages shall not be stacked unless designed for that purpose. (7.5.7.2)

Restraints shall not be over-tightened to cause deformation of the package. (7.5.7.1)

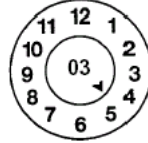
*) Can be recognised by:

1. The symbol



2. The year of production

3. The following exemplary stamp



III. Regulations for the carriage of specific dangerous goods

4. Caustic potash (Potassium hydroxide, solid)

Classification (Chapter 3.2, Columns 1 - 4)

UN number	1813
Name and description	potassium hydroxide, solid
Class	8
Packing group	II
Transport category	2
Tunnel restriction code	E

Limited quantities under LQ23 (Chapter 3.2, Column 7, in accordance with 3.4.6)

non-dangerous goods transport, if	combination packaging	trays
In interior packaging	3 kg	1 kg
Per transported item	30 kg	20 kg

Type-approved packaging (Chapter 3.2, Column 8, in accordance with 4.1.4)

Combination packaging (4.1.1.3)

P002 = e.g. 400 kg steel or plastic cask (6.1.4.1, 6.1.4.8)

Use plastic cask: max. 5 years (4.1.1.15)

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 8 (1 on canister, for barrels > 400 L: on 2 opposite sides)



UN 1813

Also required for carriage under LQ23
Chapter 3.2 Column 7
Incl. Orientation arrow

Labels shall be displayed on a background of contrasting color, or shall have either a dotted or solid outer boundary line. (5.2.2.2.1.1)

The marking of the word "OVERPACK" (5.1.2.1 a+b) shall be in an official language of the country of origin and also, if that language is not English, French or German, in English, French or German. Orientation arrow (5.2.1.9.1) shall be displayed on 2 opposite sides

Transport document (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

UN 1813 potassium hydroxide, solid, 8, II

No indication in the transport document is required for consignments of limited quantities under LQ23 (5.4.1.1.4).

Recommendation: "Packaging of the potassium hydroxide must be executed in accordance with LQ23; the provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Note in the event of application of Subparagraph 1.1.3.6:
"Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6" and indication of the value of the quantity to be transported (5.4.1.1.10.1 + 5.4.1.1.1 Note)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

Handling and Stowage

Packages shall not be stacked unless designed for that purpose. (7.5.7.2)

Restraints shall not be over-tightened to cause deformation of the package. (7.5.7.1)

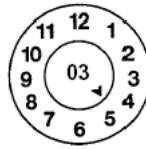
*) Can be recognised by:

1. The symbol



2. The year of production

3. The following exemplary stamp



III. Regulations for the carriage of specific dangerous goods

5. Uncleaned empty Class 8 containers

Classification

UN number	-----	
Name and description	empty packaging	Empty packaging that has contained a dangerous substance is subject to the same requirements as those for a filled packaging, unless adequate measures have been taken to nullify any hazard. (4.1.1.11)
Class	8	
Packing group	-----	
Transport category	0	
Tunnel restriction code	exempted	

Packaging and carriage

Bulk, stacked and secured on vehicle load floors or stacked and secured on pallets without causing deformation of the packages

Marking and labelling (Paragraph 5.1.3)

Hazard label no. 8 (hazard label according to 5.2.2.2.1.1 + regarding over pack, see III. 1 of this brochure)



UN
required in accordance with 5.1.3.1

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Empty packaging, 8 (uncleaned 5.4.1.1.6)

Last load: UN 2796, battery fluid, acid
or UN 2797 battery fluid, alkaline,
or UN 2794 batteries, wet, filled with acid
or UN 1794 lead sulphate

“Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6” (5.4.1.1.10.1)

It must further state:

- Total number and description of transported articles
- Gross weight
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on –transport category 0, tunnel restriction code exempted-

Note:

Uncleaned empty containers must be sealed and air-/watertight as in the filled condition. They must be free of all dangerous adherences of previous contents. Accident sheet and warning signs are not required for consignments of empty containers.

III. Regulations for the carriage of specific dangerous goods

6. Uncleaned empty Class 6.1 containers
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Classification

UN number	-----	
Name and description	empty packaging	Empty packaging that has contained a dangerous substance is subject to the same requirements as those for a filled packaging, unless adequate measures have been taken to nullify any hazard. (4.1.1.11)
Class	6.1	
Packing group	-----	
Transport category	0	
Tunnel restriction code	exempted	

Packaging and carriage

Bulk, stacked and secure on vehicle load floors or stacked and secured on pallets.

Marking and labelling (Paragraph 5.1.3)

Hazard label no. 6.1 (hazard label according to 5.2.2.2.1.1 + regarding over pack, see III. 1 of this brochure)



UN 3288
or
UN 2291
Required in accordance with 5.1.3.1

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Empty packaging, 6.1 (uncleaned 5.4.1.1.6)

Last load: UN 3288, toxic inorganic substance, not otherwise specified (lead compounds)
– or UN 2291, lead compounds, soluble, not otherwise specified (e.g. lead dust)

“Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6” (5.4.1.1.10.1)

It must further state:

- Total number and description of transported articles
- Gross weight
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on –transport category 0, tunnel restriction code exempted-

Note:

Uncleaned empty containers must be sealed and air-/watertight as in the filled condition.
They must be free of all dangerous adherences of previous contents.
Accident sheet and warning signs are **not** required for consignments of empty containers.

III. Regulations for the carriage of specific dangerous goods

7. Lead sludge containing sulphuric acid with more than 3% free acid (in bulk)

Classification (Chapter 3.2, Columns 1 - 4)

UN number	1794
Name and description	lead sulphate with more than 3% free acid
Class	8
Packing group	II
Transport category	2
Tunnel restriction code	E

Packaging and carriage

(Chapter 3.2, Column 17, Special Provision VV 9a, in accordance with 7.3.3)

In bulk as batched load in covered vehicles, in sealed containers or solid-walled covered bulk containers. The bodywork of the vehicles or containers must be equipped with a suitable and sufficiently solid interior cladding. Carriage in steel or plastic canisters with acid-resistant lining

< 1 m³ with a lid or tarpaulin over the vehicle load is considered to be "bulk transport".

In the event of carriage as "batched load" any further loading, unloading and additional loading operations between consignor and consignee may be effected **only** for transports carried out for the company itself or by contractors bound by a carriage agreement and on the condition that the load is made up exclusively of the company's own goods.

(1.2.1 = batched load + 7.5.1.4).

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 8



UN 1794

on both sides of the container and on the sides and the rear of the vehicle.

Affix orange warning plates with identification number 80/1794, front and rear of the vehicle.

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Waste*, UN 1794, lead sulphate with more than 3% free acid, 8, II

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

Note:

Lead sulphate with not more than 3% free acid (lead sludge and scrap plates with not more than 3% free sulphuric acid) is **not** subject to ADR regulations (Special Provision 591, in accordance with Chapter 3.3).

Statement in delivery note: "Carriage in accordance with Special Provision 591 of the ADR. The provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

*) The legal provisions governing waste management must be observed.

III. Regulations for the carriage of specific dangerous goods

8. Waste containing lead (lead sweepings, red lead, lead dust, filter dust, etc.) (In bulk)

Classification (Chapter 3.2, Column 1 - 4)

The following classifications are possible:

UN number	3288	2291
Name and description	toxic inorganic solid substance, n.o.s. (lead compounds)	Lead compound, soluble, n.o.s. (i.e. lead oxide, red led)
Class	6.1	6.1
Packing group	III	III
Transport category	2	2
Tunnel restriction code	E	E

n.o.s. = not otherwise specified

Note: Test to determine solubility of lead compounds --> Special Provision 199

Packaging and carriage

(Chapter 3.2, Column 17, Special Provision VV 9b, in accordance with 7.3.3)

Carriage in bulk of full loads is permitted in closed containers or in sheeted large containers with complete walls.

- Carriage in steel or plastic canisters < 1 m³ with a lid or tarpaulin over the vehicle load is considered to be "bulk transport".
- Carriage in canisters > 1 m³ in accordance Special Provisions V V 9b
- In the event of carriage as "batched load" any further loading, unloading and additional loading operations between consignor and consignee may be effected **only** for transports carried out for the company itself or by contractors bound by a carriage agreement and on the condition that the load is made up exclusively of the company's own goods.
- (1.2.1 = batched load + 7.5.1.4).

(Chapter 3.2, Column 18, in accordance with 7.5.11 and 8.5)

Loading, unloading and handling operations are subject to regulations, CV13, CV28 + S9.

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2 = carriage < 1 m³,



UN 3288

or

UN 2291

On both sides of the container and on the sides and rear of the vehicle. Affix orange warning plates with identification number 60/3288, or 60/2291, front and rear.

in accordance with 5.3.1 = for container)

Carriage < 1 m³: on 2 opposite sides (5.2.1.4)

Container: on all 4 sides (5.3.1.2)

Labels shall be displayed on a background of contrasting color, or shall have either a dotted or solid outer boundary line. (5.2.2.2.1.1 or 5.3.1.1.1)

Hazard label no. 6.1

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

- Waste*, UN 3288, Toxic inorganic solid substance, n.o.s. (lead compounds), 6.1, III
or Waste*, UN 2291, Lead compound, soluble, n.o.s. (i.e. lead oxide, red led) 6.1, III

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)

- Recommendation: Reference on -transport category 2, tunnel restriction code E-

*) The legal provisions governing waste management must be observed.

III. Regulations for the carriage of specific dangerous goods

9. Used lead storage batteries - carriage in battery cases or in bulk (filled with sulphuric acid, partially drained or loose cells)

Classification (Chapter 3.2, Column 1 - 4)

UN number	2794
Name and description	storage batteries, wet, filled with acid
Class	8
Packing group	-----
Transport category	3
Tunnel restriction code	E

Packaging and carriage

(Chap. 3.2, Column 8, in accordance with 4.1.4.1)

- Packaging in battery cases
- Subject to the provisions of Packaging Instruction P 801a

(Chap. 3.2, Column 17, in accordance with 7.3.3)

- In bulk, in specially equipped road vehicles or containers, subject to **Special Provision "VV 14"**
- Cargo spaces or containers/canisters may not contain batteries with different substances nor other dangerous goods.

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2.)

Hazard label or placard no. 8



UN 2794
in accordance with P 801a hazard label and Un number:
affix orange warning plates on both sides of container, at the front and rear of vehicle.
in accordance with VV 14: Placards
on both sides of the container as well as on the front and rear (5.3.1.2) affix orange warning plates on the front and rear of the vehicle, with identification no. 80/2794

Labels shall be displayed on a background of contrasting color, or shall have either a dotted or solid outer boundary line. (5.2.2.2.1.1 or 5.3.1.1.1)

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Waste*, UN 2794, storage batteries, wet, filled with acid, 8

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on –transport category 3, tunnel restriction code E-

Note:

These Explanatory Notes may also be applied in respect of carriage of batteries with UN no. 2795, 2800 and 3028.

*) The legal provisions governing waste management must be observed.

III. Regulations for the carriage of specific dangerous goods

10. Used lead storage batteries fixed installations - open system

Stripping of open systems (fixed cells)

The term "Open System" refers to cells contained in an open-top cell box made of glass or plastic.

Stripping involves three dangerous goods:

1. Sulphuric acid

UN 2796 battery fluid, acid, 8, II

The sulphuric acid is drained from the open cell box and run over into type-approved plastic canisters.

Marking of canisters (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 8



UN 2796

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Waste*, UN 2796, battery fluid, acid, 8, II

*) The legal provisions governing waste management must be observed.

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

2. Lead plates

UN 3288 toxic inorganic solid substance, n.o.s (lead compounds), 6.1, III

or UN 2291 Lead compound, soluble, n.o.s (lead oxides), 6.1, III

The lead plates must be removed from the cell box and placed on pallets sealed with a shrink wrap (shaped like a "bag" when turned upside down).

The shrink wraps are held in place with plastic straps or tension straps and secured to the pallet in such a manner as to prevent shifting of the plates.

Marking (Chapter 3.2, Column 5, in accordance with 5.2.2)



UN 3288
or
UN 2291

Hazard label no. 6.1

III. Regulations for the carriage of specific dangerous goods

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Waste*, UN 3288, toxic inorganic solid substance, n.o.s. (lead compounds), 6.1, III
or Waste*, UN 2291, Lead compound, soluble, n.o.s. (i.e. lead oxide) 6.1, III

*) The legal provisions governing waste management must be observed.

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of consignor
- Name and address of consignee(s)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

3. Cell boxes (empty packagings, Class 6.1)

The empty cell boxes are placed on a pallet. The cell boxes are then seeded with soda to neutralise the residual acid. Subsequently the cell boxes are sealed inside a shrink wrap. This shrink wrap is retained by horizontal belts. Moreover the empty cell box stack is held in place on to the pallet by tension straps.

Marking (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 6.1



UN 3288
or
UN 2291

Marking on packed pallets when hazard label and UN number not visible from the outside

In addition, the packed pallets must be marked on 2 opposite sides with hazard label 6.1, as well UN 2291 + "Over pack"

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Waste*, empty containers, 6.1

Last Load: UN 2291, lead compound, soluble, n.o.s. (lead plates)

*) The legal provisions governing waste management must be observed.

It must further state:

- Total number and description of transported articles
- Total gross weight
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on -transport category 0, tunnel restriction code** exempted-

** The exemption of tunnel provisions under observance of conditions in accordance with 1.1.3.1c, 1.1.3.5, 1.1.3.6)

Loading and Transport of sulphuric acid, lead plates and cell boxes

As batched load in covered vehicle. Any further loading, unloading and additional loading operations between consignor and consignee may be effected **only** for transports carried out for the company itself or by contractors bound by a carriage agreement and on the condition that the load is made up exclusively of the company's own goods.

The provisions CV13, CV28 (Chapter 3.2, Column 18 and 7.5.11) and S9 (Chapter 3.2, Column 19 and 8.5) governing loading, unloading and handling must be observed.

Note:

After soda neutralization of residual acid the lead sulphate residues in the cell box may contain not more than 3% free sulphuric acid and therefore are **not** subject to the provisions of ADR (Special Provision 591, in accordance with Chapter 3.3).

11. Used lead storage batteries closed system with intact cases
--

... are not subject to the ADR

if the following conditions of the ADR **Special Provision 598 b)** (Chapter 3.3) are satisfied:

- Ø Battery cases / cells must not display visible signs of damage.
- Ø Batteries / cells must be secured in such a way that they do not slide, tip over or otherwise sustain damage.
- Ø Batteries / cells must not have any harmful external acid deposits.
- Ø Batteries / cells falling to be classified within UN nos. 2794 and 2795 may not be stacked on the same pallet.
- Ø Batteries / cells must be protected against short circuiting.

These conditions are satisfied, when the following procedure is followed:

1. Batteries in steel or plastic containers

- Ø Shrink on to the pallet (additional securing to the pallet for batteries that may tip over).
- Ø Stretch large batteries (exceeding 1,200 x 800 mm) rainproof on the pallet. A non-slip floor cover must be placed between the battery and the pallet.
- Ø If compliance with the first two points is not possible, cover the batteries with a PE sheet (protection against short circuiting) and secure to the pallet with tension straps.
- Ø Batteries must not protrude over the edges of the pallet.
- Ø Batteries must not have any cracks or fissures from which sulphuric acid may escape.
- Ø As a general rule, the cells must be fitted with all their stoppers.

2. Loose cells

- Ø Shrink on to the pallet. The cells must be secured by means of horizontal tension straps to form a bond. Cells likely to tip over must be secured to the pallet.
- Ø If shrinking on is not possible, the cell block must be covered with a PE sheet, secured by horizontal retainer straps to form a bond; the cell block must in all cases be secured with the pallet.
- Ø The cells must not protrude over the edges of the pallet.
- Ø The cells must not have any cracks or fissures from which sulphuric acid may escape.
- Ø As a general rule, the cells must be fitted with all their stoppers.

Compliance with the provisions of Special Provision 598 b) also requires observation of the following:

- Ø Marking of batteries / cells and vehicles in accordance with ADR is not permitted.
 - Ø Statement in delivery note:
"Packaging of the storage batteries was performed in accordance with ADR Special Provision 598 b). The provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

If these conditions are not satisfied the batteries / cells must be carried as dangerous goods in accordance with Packaging Instruction P 801a (4.1.4.1) or in accordance with Special Provision VV 14 (7.3.3). (See also III, point 9 of this Brochure)

Note:

As a rule dry batteries are not dangerous goods.

12. Used lead storage batteries closed system with damaged cases

1. Damaged cells - e.g. split or cracked cases

Ø **Sulphuric acid (UN 2796 battery fluid, acid, Class 8, Packing group II)**

The sulphuric acid is siphoned over into type-approved plastic canisters.

Marking of canisters (Chapter 3.2, Column 5, in accordance with 5.2.3)
Hazard label no. 8



UN 2796

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

Waste*, UN 2796, battery fluid, acid, 8, II

*) The legal provisions governing waste management must be observed.

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

Ø **Damaged cells**

Damaged and drained cells must be freed of adherent traces of dangerous acid on the outside and placed in a plastic bag sealed at the top with adhesive tape.

Thus prepared for transport, the damaged cells **are not subject to ADR**; they may be loaded and carried together with the undamaged cells in accordance with Special Provision 598 b) (Chapter 3.3). (See also III, point 11 of this brochure.)

2. Damaged cells from which drainage of acid is not possible

These cells must be carried as dangerous load in special vehicles / special containers in accordance with Special Provision VV 14 (7.3.3) or in battery case in accordance with the packaging instructions P 801a (4.1.4.1)

Neither batteries containing different substances nor other dangerous goods may be carried in the cargo space of these vehicles or in the special containers. (See also III, point 9 of this brochure.)

It is recommended that larger cells be carried by a specialist waste disposal company.

III. Regulations for the carriage of specific dangerous goods

Marking of vehicles and special containers
(Chapter 3.2, Column 5, in accordance with 5.2.3.)
Hazard label no. 8



UN 2794
in accordance with P 801a hazard label
and Un number:
affix orange warning plates on both sides of
container, at the front and rear of vehicle.
in accordance with VV 14: Placards and
UN number on both sides of the container as
well as on the front and rear (5.3.1.2) affix
orange warning plates on the front and rear of
the vehicle, with identification no. 80/2794

Transport document (required for every consignment) (Paragraph 5.4.1)
The data on the transport document must be stated in the following order:

Waste*, UN 2794, storage batteries, wet, filled with acid, 8,

*) The legal provisions governing waste management must be observed.

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)
- Recommendation: Reference on -transport category 2, tunnel restriction code E-

Note:

These references can also be used for the transport of batteries with the UN Nr 2795, 2800 and 3028

13. Used storage batteries Starter batteries and Ni/Cd industrial storage batteries with intact cases
--

... are not subject to the ADR

if the following conditions of ADR Special Provision 598 b) (Chapter 3.3) are satisfied:

- Ø Battery cases must be intact and undamaged.
- Ø Batteries must be secured in such a way as not to slip, tip over or sustain damage.
- Ø Batteries must be free of dangerous external traces of acid or alkaline solutions.
- Ø Batteries must not protrude over the side of the pallet.
- Ø Batteries must be protected against short circuiting.

These conditions are satisfied if the following points are strictly observed:

- Ø Battery cases must have no cracks or fissures from which caustic potash solution or sulphuric acid may escape.
- Ø As a general rule, batteries must be fitted with all their stoppers.
- Ø Shrink-wrap batteries on to the pallet or secure them to the pallet by means of tension straps.
- Ø Carriage on post pallets:
 - the post pallets may not bear more than one layer,
 - they must be secured on the vehicle load floor in such a way as not to slip or tip over,
 - the batteries on the top post pallet must be protected against short circuiting (e.g. paperboard top cover). This protection is not necessary for internal terminals.
- Ø Carriage in solid plastic containers with removable lids:
 - The batteries must be stacked in clean condition in the plastic containers. Bulk load is not allowed.
 - The plastic containers must be secured on the vehicle load floor in such a way as not to slip or tip over.
 - The plastic containers must be closed with their lids during transport (protection against short circuiting).

Compliance with the provisions of Special Provision 598 b) also requires observation of the following:

- Ø Marking of batteries and vehicles in accordance with ADR is **not** permitted.*
- Ø Statement in delivery note:
"Storage batteries packed in accordance with ADR Special Provision 598 b). The provisions of the ADR incl. Annexes A + B therefore do not apply."

If these conditions are not satisfied the batteries / cells must be carried as dangerous goods in accordance with Packaging Instruction P 801a (4.1.4.1) or in accordance with Special Provision VV 14 (7.3.3). (see also III, point 9 of this Brochure)

Note:

Used starter batteries and open Ni/Cd storage batteries must not be loaded on the same pallet. Separate sorting is absolutely necessary.

*) Do not apply to *Carriage in a transport chain including maritime or air carriage* (in accordance with 1.1.4.2.1): Batteries shall bear markings and danger labels in accordance with the requirements of the IMDG Code or the ICAO Technical Instructions and (chapter 5.4.1.1.7) a statement shall be included in the transport document, as follows: "Carriage in accordance with 1.1.4.2.1"

14. New storage batteries - lead and Ni/Cd industrial storage batteries
--

... are not subject to the ADR

If the following conditions of ADR Special Provision 598 a) (Chapter 3.3) are satisfied:

- Ø they are secured in such a way that they cannot slip, fall or be damaged;
- Ø they are provided with carrying devices, unless they are suitably stacked, e.g. on pallets;
- Ø there are no dangerous traces of alkalis or acids on the outside;
- Ø they are protected against short circuits;

Compliance of these conditions also requires observation of the following:

- Ø Batteries stacked shall be adequately secured in tiers separated by a layer of non conductive material, e.g. a sheet of paperboard
- Ø Marking of batteries and vehicles in accordance with ADR is **not** permitted *
- Ø Statement in delivery note:
"Carriage in accordance with ADR Special Provision 598 a) of the ADR Agreement. The provisions of the ADR Agreement incl. Annexes A + B therefore do not apply."

Notes:

- Lead and Ni-/Cd storage batteries may not be loaded on the same pallet.
- As a general rule, dry batteries are not dangerous goods.
- Battery-powered vehicles or appliances with UN number 3171 are generally not subject to the provisions of the ADR Agreement (without conditions) (in accordance with 3.2)

*) Do not apply to *Carriage in a transport chain including maritime or air carriage* (in accordance with 1.1.4.2.1): Batteries shall bear markings and danger labels in accordance with the requirements of the IMDG Code or the ICAO Technical Instructions and (chapter 5.4.1.1.7) a statement shall be included in the transport document, as follows: "Carriage in accordance with 1.1.4.2.1"

15. New lithium batteries – non-dangerous load

... are not subject to the ADR

If the following conditions of ADR **Special Provision 188** (Chapter 3.3) are satisfied:

- Ø Lithium content per cell ≤ 1 g (lithium-ion cells ≤ 1.5 g (equivalent to 5 Ah)) or per battery ≤ 2 g (lithium-ion batteries ≤ 8 g (equivalent to 26, 67 Ah))
- Ø Successful completion of tests in accordance with UN Tests and Criteria Manual, Subparagraph 38.3
- Ø Short circuiting protected separation of cells / batteries and solid external packaging if the cells / batteries are not built into equipment or fittings.

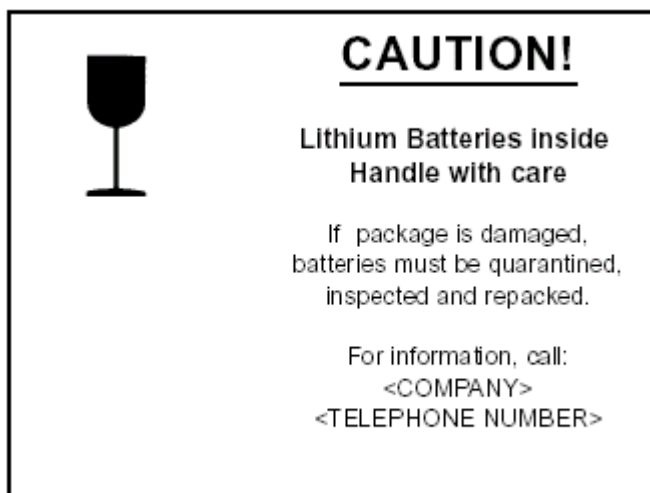
The following additional conditions must be observed for consignments of more than 24 cells or 12 batteries (except if built into equipment or fittings):

- Ø Marking to indicate that the transported article contains lithium batteries and with reference to special handling in the event of damaged packaging (see Marking and Labelling)
- Ø Accompanying document with indication of the content as lithium batteries and with reference to special handling in the event of damaged packaging (see Delivery note)
- Ø Gross weight of transported article ≤ 30 kg (except cells and batteries built into equipment or fittings)
- Ø Falling test of transported article from a height of 1.2 m (single test of packaging with the corresponding content)

Marking and labelling

Marking for consignments of more than 24 Cells or 12 batteries:

Picture of warning labels proposed:



III. Regulations for the carriage of specific dangerous goods

Delivery note

§ Each consignment of lithium batteries must be covered by the following statement in the delivery note: "Carriage in accordance with ADR Special Provision 188. The provisions of the ADR Agreement including Annexes A and B therefore do not apply".

§ Details in delivery note of consignments of more than 24 cells or 12 batteries:

*Lithium batteries inside. Handle with care. If packaging is damaged, batteries must be quarantined, inspected and repacked.
For information call <telephone number>*

Note:

Special provision 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 packaging, 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.

16. New lithium batteries - dangerous goods transport
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Classification (Chapter 3.2, Column 1 – 4)

UN number	3090 3091
Name and description	3090 lithium batteries 3091 lithium batteries built into/packed with equipment
Class	9
Packing group	II
Transport category	2
Tunnel restriction code	E

Tests, packaging and carriage

Transport of dangerous loads of lithium cells and batteries in accordance with ADR Special Provisions 230 and 636 (Chap. 3.3) and Packaging Instruction P 903 (Chap. 4.1.4.1) must be carried out under the following conditions:

- Ø Successful completion of tests in accordance with UN Tests and Criteria Manual, Subparagraph 38.3
- Ø Protection of cells and batteries against short circuiting
- Ø Carriage of cells and batteries:
 - Exterior packaging: Packing group II
 - 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.
- Ø Carriage of cells and batteries packed with equipment:
 - Interior packaging cardboard, Packing group II
- Ø Carriage of cells and batteries in equipment:
 - Solid exterior packaging and securing against movement inside the packaging that might unintentionally activate the cells or batteries.
 -
- Ø Consignments are loaded:
 - (a) in closed vehicles or in closed containers; or
 - (b) in sheeted vehicles or in sheeted containers; or
 - (c) in open vehicles or in open containers.

Packages comprising packagings made of materials sensitive to moisture shall be loaded on to closed or on to sheeted vehicles or into closed or sheeted containers.

III. Regulations for the carriage of specific dangerous goods

Special Provision 310 provides that production series of not more than 100 lithium cells and batteries or prototypes may be carried for test purposes subject to the following conditions in accordance with UN Manual, Subparagraph 38.3:

- ∅ Exterior packaging: Packing group I
- ∅ Separate interior packaging for each individual cell and battery and use of non-flammable and non-conductive padding material.
- ∅ This provision is applicable to lithium cells and batteries (UN 3090)

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2)

Hazard label no. 9



UN 3090
or
UN 3091

Transport document (required for every consignment) (Chapter 5.4.1)

The data on the transport document must be stated in the following order:

UN 3090, lithium batteries, 9, II
or
UN 3091, lithium batteries in equipment / with equipment, 9, II

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of consignor
- Name and address of consignee(s)
- Note in the event of application of Subparagraph 1.1.3.6 "Carriage without exceeding the exemption limits established in Subparagraph 1.1.3.6" and indication of the value of the quantity to be transported (5.4.1.1.10.1 + 5.4.1.1.1.Note)"

III. Regulations for the carriage of specific dangerous goods

17a. Used lithium batteries with a gross mass of not more than 250 g

I. Transitional Provisions

Lithium cells and batteries manufactured before 1 July 2003 which had been tested in accordance with the requirements applicable until 31 December 2002 but which had not been tested in accordance with the requirements applicable as from 1 January 2003, and appliances containing such lithium cells or batteries, may continue to be carried up to 30 June 2013 if all the other applicable requirements are fulfilled (see paragraph 1.6.1.10).

II. Carriage in transport units with a gross mass of less than 30 kg (Special provision 636)

The transport is not subject to the ADR, if the following conditions are satisfied:

- batteries carriage for disposal between the consumer collecting point and the intermediate processing facility (together with other non-lithium cells or batteries or alone);
- the gross mass of each lithium cell or battery does not exceed 250 g;
- The collecting trays have a gross mass of less than 30 kg made from non-conducting material (meeting the general conditions of paragraphs 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.8 only).
- Packages containing used cells or batteries in unmarked packagings shall bear the inscription: "Used lithium cells".

III. Carriage in transport units with a gross mass of more than 30 kg

III.1 Packing instruction 903 (b)

- 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, if 1H2 drums or 4H2 boxes will be used conforming to the packing group II performance level for solids;
- The empty space in the packaging shall be filled with appropriate cushioning material so 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..

III.2 Transport Document

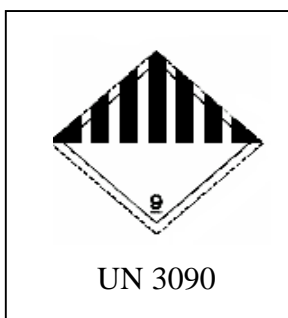
The data on the transport document must be stated in the following order:

Waste UN 3090 lithium batteries 9 II

It must further state:

- total number and description of transport articles
- total quantity of dangerous goods
- name and address of consigner
- name and address of consignee
- note in the event of application of subparagraph 1.1.3.6 (see 5.4.1.1 note and 5.4.1.1.10.1)

III.3 Marking and labelling



III. Regulations for the carriage of specific dangerous goods

17b. Used lithium batteries with a gross mass of more than 250 g

I. Transitional Provisions

Lithium cells and batteries manufactured before 1 July 2003 which had been tested in accordance with the requirements applicable until 31 December 2002 but which had not been tested in accordance with the requirements applicable as from 1 January 2003, and appliances containing such lithium cells or batteries, may continue to be carried up to 30 June 2013 if all the other applicable requirements are fulfilled (see paragraph 1.6.1.10).

II. Carriage in transport units with a gross mass of less than 30 kg

The transport is not subject to the ADR, if the conditions of the special provision 188 are satisfied (see regulations for the transport of new batteries, chapter 15). The applicable packing instruction is 903 a.

III. Carriage in transport units with a gross mass of more than 30 kg

The transport is subject to the ADR! All obligations of the special provision 230 must be fulfilled (see regulations for the transport of new batteries, chapter 16). The applicable packing instruction is 903.

IV. Transport Document

The transport documents in the case of point II must include the data that the consignment contains lithium batteries and what is to be done if the consignment is damaged.

The data on the transport document in the case of point III must be stated in the following order:

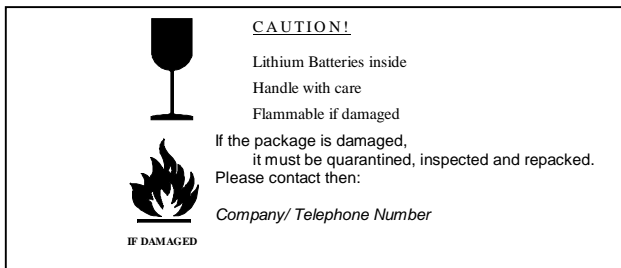
Waste UN 3090 lithium batteries 9 II

It must further state:

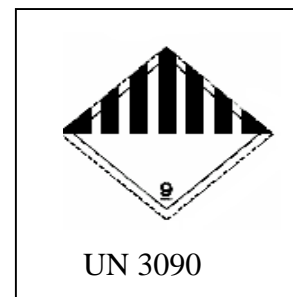
- total number and description of transport articles
- total quantity of dangerous goods
- name and address of consigner
- name and address of consignee
- note in the event of application of subparagraph 1.1.3.6 (see 5.4.1.1 note and 5.4.1.1.10.1)

V. Marking and labelling

For the case of Point II (SP 188):



For the case of Point III (SP 230):



18. New and used portable batteries
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Portable batteries such as alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries and all button cells (with the exception of lithium batteries - see III, point 15 - 17 of this brochure)

... are generally not dangerous according to the ADR Agreement.

Ø **Special Provision 304** applies for :

UN 3098 BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage.

"Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the requirements of ADR provided the batteries are securely packed and protected against short-circuit. Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries."

Note

The legal provisions governing waste management must be observed.

III. Regulations for the carriage of specific dangerous goods

19. Lead oxide in container <and> 1 m³ (in bulk)
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Classification (Chapter 3.2, Columns 1 - 4)

UN number	2291
Name and description	lead compound, soluble, n.o.s. (lead oxide)
Class	6.1
Packing group	III
Transport category	2
Tunnel restriction code	E

Packaging and carriage

(Chapter 3.2, Column 17, Special Provision VV 9a, in accordance with 7.3.3)

In bulk as batched load in covered vehicles, in sealed containers or solid-walled covered bulk containers. < 1 m³ with a lid or tarpaulin over the vehicle load is considered to be "bulk transport".

According to paragraph 7.3.3, special provision VV9, carriages and containers <and> 1 m³ are allowed

In the event of carriage as "batched load" any further loading, unloading and additional loading operations between consignor and consignee may be effected **only** for transports carried out for the company itself or by contractors bound by a carriage agreement and on the condition that the load is made up exclusively of the company's own goods. (1.2.1 = batched load + 7.5.1.4).

The provisions CV13, CV28 (Chapter 3.2, Column 18 and 7.5.11) and S9 (Chapter 3.2, Column 19 and 8.5) governing loading, unloading and handling must be observed.

Marking and labelling (Chapter 3.2, Column 5, in accordance with 5.2.2 = carriage < 1m³, in accordance with 5.3.1 = for container)

Hazard label or Placard no. 6

Carriage < 1 m³: on 2 opposite sides (5.2.1.4)

Container: on all 4 sides (5.3.1.2)

Labels shall be displayed on a background of contrasting color, or shall have either a dotted or solid outer boundary line. (5.2.2.2.1.1 or 5.3.1.1.1)



UN 2291

Placards on both sides of the container and on the sides and the rear of the vehicle.

Affix orange warning plates with identification number 60/2291,

Transport document (required for every consignment) (Paragraph 5.4.1)

The data on the transport document must be stated in the following order:

UN 2291, lead compound, soluble, n.o.s. (lead oxide), 6.1, III

It must further state:

- Total number and description of transported articles
- Total quantity of dangerous goods (volume or gross or net weight)
- Name and address of the consignor
- Name and address of the consignee(s)

- Recommendation: Reference on -transport category 2, tunnel restriction code E-

Note:

Lead sulphate with not more than 3% free acid (lead sludge and scrap plates with not more than 3% free sulphuric acid) is **not** subject to ADR regulations (Special Provision 591, in accordance with Chapter 3.3).

Statement in delivery note: "Carriage in accordance with Special Provision 591 of the ADR. The provisions of the ADR Agreement incl. Annexes A + B therefore do not apply".

*) The legal provisions governing waste management must be observed.