

## Model all (CAR)

### Modification notes

02.03.2017	48 V scopes added	
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#### General information on battery

##### Safety note

Employees that are to handle a 12 V or 48 V lithium-ion battery must generally be instructed before commencing the task about the possible hazards involved and the specified procedure in the event of any damage to a battery or in the event of an accident or malfunction. Handling refers here to activities such as, e.g.:

- opening and removal from transport packaging.
- installation and removal of the battery in vehicles.
- packaging of batteries.

##### Information on safe handling

- Never subject the battery to naked flames or heat.
- Batteries must not be damaged, opened or modified.
- Improper use may result in leakages, evaporation of electrolyte smoke gas or fire.
- Apart from safety shoes, personal protective equipment should also be worn where applicable as per the information in the repair instructions.

##### Storeroom and container requirements

Used or defective batteries with lithium-ion technology still contain a high level of electrical and chemical energy in the form of electrolytes. Due to the fact that, when stored, the battery condition is no longer monitored by the internal battery management system, corresponding preventive measures must be taken.

The requirements with regard to storage depend on the condition of the battery as indicated in the analysis sheet for assessing transportability. A differentiation is made between:

- storage of batteries which are safe to transport and undamaged.
- storage of batteries which are not safe to transport and damaged.

For batteries that are not damaged or that are safe for transport as per the fire protection requirements a differentiation is made between:

- storage with sprinkler protection.
- storage without sprinkler protection.

##### general requirements

- Batteries must not be exposed to any mechanical pressure; there is a risk of short circuits, leaks, overheating or spontaneous ignition.
- Batteries must be stored dry and sealed in the original packaging or in the designated charge carriers.
- Country-specific laws and guidelines must be observed.

The storage temperature may not drop below or exceed a temperature range of -20 °C and +40 °C.

##### Storage of safe-to-transport batteries in storerooms with sprinkler protection

The following requirements must be taken into consideration when storing batteries in storage areas with sprinkler protection:

- Storage at a distance of 2.50 m from any other stored materials; alternatively installation of a partition wall made of non-combustible materials.

The partition wall must protrude above the mounting height of the adjacent mounting by at least 1 m.

- Divided storage areas with a maximum area of 150 m<sup>2</sup>.

- Maximum storage height 1.60 m or
- Storage in protected shelves (e.g. HHS 4 as per VdS CEA 4001).
- Packaging must be taken into consideration when determining water exposure for ceiling protection as per the applicable basis of assessment for sprinkler systems (e.g. VdS CEA 4001).

##### Storage of safe-to-transport batteries in storerooms without sprinkler protection

If a sprinkler system is not available, then fire protection requirements require batteries to be stored where possible in specially separated areas with fire-resistant rooms of category F90. Alternatively, individual rechargeable batteries can also be stored in fire-resistant hazardous substance cabinets in the F90 category, insofar as it has been ascertained that no additional combustible materials will also be stored there. If the building does not have the appropriate storage facilities, the batteries must be stored outside the building at a distance of at least 5 m from other buildings or combustible materials. The following must still be observed for storage outside the building:

- Presence of weather protection (roof) to protect against wet or direct sunlight.
- Liquid-resistant substrate or collecting bowl.
- Building or property protection.

##### General information on transportation

Valid means of transport: Road (ADR).

The battery is a hazardous material and is classified as per the international dangerous goods regulations as: UN 3480 Lithium-Ion Battery, Class 9, Packaging Group II.

Batteries may only be transported in compliance with the international and national dangerous goods regulations applicable for each particular mode of transport.

Each battery must be checked at the workshop with regard to its suitability for transport. Transportation safety is to be confirmed with a valid evaluation protocol. Faulty or damaged batteries are deemed unsuitable for transport if the following apply in connection with transportation:

- A hazardous increase in heat is possible.
- Battery fires or short circuits may be caused.
- In any other manner a hazard may exist, e.g. through release of liquid electrolyte or combustible, caustic or hazardous fumes.

##### Batteries not safe to transport

**i** Batteries which are not deemed as safe to transport are not allowed to be transported without special authorization (required for each individual case).

In all cases, the responsible MPC/general representative must be contacted immediately, and temporary storage as per the notes on handling and storage of batteries which are not safe to transport must be provided on site.

##### Transporting batteries which are safe to transport

Batteries which are safe to transport must always be shipped in the original packaging of the new battery, provided that the battery was packed in accordance with the as-delivered condition.

Please note the following requirement:

- The battery housing is to be free of any hazardous contamination on the outside.

All requirements with regard to flawless condition of the packaging, sealing of the packaging, the identification of the packaging as per the relevant dangerous goods regulations, as well as additional requirements with regard to transport must be observed.

**i** A shipment must be conducted or authorized by a qualified logistics staff member.

Additional information on transport is available at:

<http://gms.aftersales.daimler.com>