

## Is electric vehicle driving safe? Safety testing of electric vehicle batteries

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Electric vehicle traction batteries must fulfil a number of essential requirements, the most important one, of course, is safety.

This paper on electric vehicle traction battery safety deals with the following items:

- Description and discussion of possible events with respect to the battery itself and with respect to the application of the battery in road traffic which may lead to possibly dangerous situations (malfunction, abuse, accident).
  - A basic theoretical discussion of the general safety behaviour of batteries of different sizes, designs, and different electrochemistries.
- A discussion of experimental methods to investigate into possible reactions of the various batteries under these hazardous conditions.
  - Information of the present status concerning the worldwide effort to establish 'Safety Test Procedures' with the aim of standardization and harmonization in Europe, Japan, and in the USA.
  - As a current example, the EUCAR<sup>1</sup> test program for lithium-ion batteries will be reported.
  - Discussion of test results.

<sup>1</sup> EUCAR = European Council for Automotive Research and Development.