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Strongly improved, highly performant and safe all solid-state batteries for
electric vehicles.

GRANT AGREEMENT No. 875189



SAFELiMOVE – Deliverable Report

D8.2 Standardization protocols for solid-state cells

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Publishable summary

In this document, two standards (UN38.3 and IEC-62660-2) usually applied to GEN3 cells are analyzed to assess their consistency/applicability to all solid-state batteries as developed in SAFELiMOVE. A modification of some protocols is proposed for GEN4 cells, and the behavior of the SAFELiMOVE cell under abusive conditions is considered.

Executive summary

Deviation from planned timings: None

Deviation from planned objectives: None

Appendix A - Table of Abbreviations

| Symbol / Shortname | |
|--------------------|---|
| ARC | Accelerated rate Calorimeter |
| BEV | Battery electric vehicle |
| CID | Current interruption device |
| EUCAR | European Council for Automotive R&D |
| EV | Electric vehicle |
| GEN3 | Third generation cells |
| GEN4 | Fourth generation cells |
| HCPE | Hexagonal arranged porous composite polymer electrolyte |
| HEV | Hybrid electric vehicle |
| LIM | Lithium metal |
| LLZO | Lithium aluminium titanium phosphate |
| PTC | Positive thermal coefficient |
| SOC | State-of-charge |
| SSB | Solid-state batteries |
| TR | Thermal runaway |

Appendix B - Acknowledgement

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

Project partners:

| # | Partner | Partner Full Name |
|----|----------------|--|
| 1 | CICe | CENTRO DE INVESTIGACION COOPERATIVA DE ENERGIAS ALTERNATIVAS FUNDACION, CIC ENERGIGUNE FUNDAZIOA |
| 2 | SCHOTT | SCHOTT AG |
| 3 | UMICORE | UMICORE |
| 4 | HYDRO-QUEBEC | HYDRO-QUEBEC |
| 5 | SAFT | SAFT |
| 6 | RENAULT SAS | RENAULT SAS |
| 7 | TME | TOYOTA MOTOR EUROPE NV |
| 8 | IKERLAN | IKERLAN S. COOP |
| 9 | CEA | COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES |
| 10 | CIDETEC | FUNDACION CIDETEC |
| 11 | TUB | TECHNISCHE UNIVERSITAT BERLIN |
| 12 | RWTH AACHEN | RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN |
| 13 | ABEE | AVESTA BATTERY & ENERGY ENGINEERING |
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