



ZSW • Lise-Meitner-Str. 24 • 89081 Ulm • Deutschland

Certified according to DIN EN ISO 9001:2008

Dupre Minerals Limited

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23.11.2016

REPORT of Test Results

**Test of fire extinguishing performance of AVD (aqueous vermiculite dispersion) applied in Lith-Ex
AVD Aerosol fire extinguisher for Li-batteries fire (energy content 60Wh)**

Product: Lith-Ex AVD Aerosol fire extinguisher
The fire extinguishing medium AVD - Li which is specifically manufactured for this application with the product reference 1351750 was applied via an aerosol extinguisher. The composition of this extinguishing agent is according to the code 1351750 and is an aerosol manufactured by Aero-EX a division of Dupré Minerals.

The container has a capacity of 794 ml and is a standard aluminium aerosol extinguisher tested according to the standards as listed in BS 6165. 400ml AVD is filled in the container and pressurised to 12 bar with Nitrogen as the propellant

Receipt of the sample: 28.9.2016, 20.10.2016

Tested by: ZSW/EET—ECA, 89091 Ulm, Lise-Meitner Str. 24

Project Leader: Dr. H Döring

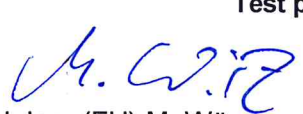
Test engineer 1: Dipl. Ing. (FH) M. Wörz

Test engineer 2: M. Sc. O. Rohozneanu

Test specification: fire target: 4 Li-cells (2x2s1p, LiC-LiCo-Oxide, pouch) each cell 4Ah//4.2V//15 Wh
ignition procedure: heating below one cell with a heating cartridge 150W
Extinguishing the battery fire by 400 ml Lith-Ex AVD Aerosol fire extinguisher

Test results: The battery fire was extinguished quickly, failure propagation to the neighbouring cell was avoided by the cooling effect of the AVD

Test passed


Dipl. Ing. (FH) M. Wörz
(Test engineer 1)

Attachment: Test protocol

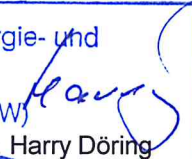
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