Office: +32 3 250 7826 Mobile: +32 478 480 915 e-mail: bgoeman1@mmm.com

16 October 2019



## To Whom it May Concern

Reference: 3M<sup>™</sup> Novec<sup>™</sup> 1230 Fire Protection Fluid ability to address lithium ion battery fires

Dear sir,

Novec 1230 fluid in a system designed and installed per the NFPA Standard 2001 and/or ISO 15004 can extinguish class A, B and C hazards.

Owners may elect to install a fire extinguishing system using Novec 1230 fluid near Li-ion batteries to suppress ancillary fires, external to the battery. Extinguishing the ancillary Class A, B or C fuel fires can prevent a battery from overheating and potential runaway initiation.

Additionally, Li-ion batteries may leak the electrolytes that are present within the battery, which may be flammable. Owners may elect to install fire extinguishing systems using Novec 1230 fluid to suppress fires <u>external</u> to the battery that are caused by electrolyte leakage, which are Class B hazards.

To be clear, Novec 1230 fluid, as currently used in total flooding fire suppression system, <u>cannot stop thermal runaway once initiated</u> and should therefore not be used for this specific application/risk.

Best regards,

Ing. Bart Goeman

EMEA Area Market Manager

 $3M^{\text{TM}}$  Novec  $^{\text{TM}}$  1230 Fire Protection Fluid

3M Electronics Markets Solution Division